# New Orleans Medical

and

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## MEMORIAL SERVICES FOR DECEASED MEMBERS.


S. C. BARROW, M. D.,

SHREVEPORT, LA.


During the last few years it has become a custom on this occasion to set aside a few moments from our regular program in memory of those members of our Association who have died during the previous year.

This is a beautiful custom. It is a custom, my friends, which exists among all organizations of men and women who have for their work the betterment of mankind. Right here I would take the opportunity of giving credit for the origin of this custom to that great man, that wonderful doctor, that beloved citizen from the Evangeline section of the country, our good friend Dr. Fred Mayer of Ope'ousas.

Mr. President, when you requested me to act in this capacity on behalf of our Association I hesitated, but remembering that the occasion is one which calls for only simple words, sincerity and a feeling heart, I gladly consented.

Ladies and gentlemen, I hold in my hand a list. It is the roster of our dead. At this moment I read you that list, and as I read I know that each name will be known by some and I feel loved by all.

| | Years of Practice |
|---|---|
| Betts, S. H. | 18 |
| Blackman, R. H. | 36 |
| Cappel, Marvin | 20 |
| Carney, H. E. | 10 |
| Credille, R. L. | 25 |
| Culpepper, J. C. | 21 |
| Hawkins, W. E. | 47 |
| Hodge, W. J. | 21 |
| Hoffpauer, M. L. | 36 |
| Kearney, S. D. | 24 |
| Kimbell, J. I. | 45 |
| Frater, J. J. | 24 |
| Lemkowitz, D. G. | 23 |
| Mayo, S. T. | 32 |
| Merell, M. P. | 36 |
| Tarleton, T. T. | 58 |
| Thomas, A. R. | 10 |
| Unsworth, C. V. | 25 |
| Weinfield, E. B. | 2 |
| Wipperman, P. W. | 17 |
| Younger, T. B. | 28 |

Since this roster was made we have had the sad duty of adding to the list two more of our beloved local physicians, Dr. Louis Abramson, of Shreveport, and Dr. H. C. Cole, of Monroe.

The life of a doctor is one that cannot be portrayed to you in words. It stands out in true appraisal only after his death in the memory of those men and women who have known him and known of him. Many men, graduate in medicine, begin their life's work along the road which all true doctors must follow, but after only a few years we find less than half still trudging on. The other half have been led aside into easier paths, with promise of a larger share of this world's goods, and when the end comes those found still in the harness are the true and tried ones.


Read before the Louisiana State Medical Society, Shreveport, April 29-May 1, 1930.

Friends, we are sad today in the knowledge that during the last year twenty-three of these true and tried knights have been called to the Great Beyond. Reverently, I would direct your attention to this list. Opposite their names is the number of years they have practiced their profession, a total of 615 working medical years; 615 years contributed by by twenty-three men toward the relief and prevention of illness.

In your imagination can you realize just how many lives during those 615 years were brought safely into this world, how many lives were prolonged and made useful, how much happiness resulted, how many deaths were made easy and, if I might desecrate the occasion, how much economic loss was foresta'led? The work completed by these men is too stupendous for us to realize. They worked not by an eight-hour day, but three times eight, a twenty-four-hour day. If we were to multiply this 615 by three we would get nearly two centuries of medical years contributed to humanity as their part by these men. Truly, my friends, they typify the ideal, which Guest must have had in mind when he wrote those immortal and sanctified words:

I'd like to think when life is done
That I had filled a needed post;
That here and there I'd paid my fare
With more than idle talk and boast;
That I had taken gifts divine,
The breath of life and manhood fine,
And tried to use them now and then
In service for my fellowmen.

I'd hate to think when life is through
That I had lived my round of years
A useless kind that leaves behind
No record in this vale of tears;
That I had wasted all my days
By treading only selfish ways,
And that this world would be the same
If it had never known my name.

I'd like to think that here and there
When I am gone, there shall remain
A happier spot that might have not
Existed had I toiled for gain;
That someone's cheery voice and smile
Shall prove that I had been worth while;
That I have paid with something fine
My debt to God for life divine.

Friends and fellow members, in memory of those men and their work, with bowed heads for the short period of thirty seconds, we will ask that you stand in silence.

## THE WHY OF VITAL STATISTICS.*

J. GEORGE DEMPSEY, M. D.,

NEW ORLEANS.

It is frequently said, the present is an inquisitive age. We are not only interested in what is done but generally go a step further than our ancestors and inquire into "why" a thing is done.

Today there are many dedicating life itse'f to answering that chimeric interrogative—why? Scientists spend hour upon hour of day after day, seeking why the sun shines, the earth moves. They are no longer startled by effect, but ply assidiously into causes.

This morning I would like to refer you to the why of vital statistics.

Why have vital statistics with its cumbersome, weighty mass of figures?

A moment's reflection will reveal that the whole structure of medical activity, be it carried on in the mammoth hospital or by the individual practitioner, is based on safeguarding health.

But organized medicine today has realized it cannot combat disease without vital statistics. For how is it to know what diseases are prevalent or where they really exist, without vital statistics?

The importance of this subject is further emphasized when you consider one of the greatest businesses in the world depends

*Read before the Louisiana State Medical Society, Shreveport, April 29-May 1, 1930.

primarily upon vital statistics, that business is life insurance. Fundamentally it is nothing more than vital statistics. Wherever there is a policy, we find a company willing to stake a sum of money upon the life of an individual merely because vital statistics places him in the category of long-life; and we find an individual willing to pay a premium knowing full well he is in sound physical condition but learning from vital statistics that he is a possible prey like thousands of others to the grim ravinger, death.

There are countless other reasons why we have vital statistics. I will not dwell longer upon them but would like to indulge in a succinct commentary on the manner and means of gathering vital statistics reports.

Some 16 years ago the General Assembly of Louisiana passed Act 60 to further carry into effect Articles 296 and 297 of the state constitution relative to vital statistics. In view of the difficulties of obtaining prompt reports from physicians and midwives it appointed local registrars for each town and ward in Louisiana. They number at present 740 and represent 976 districts.

In the beginning an insignificant percentage of the people of Louisiana were recorded as either born or dead. What scant information was on file could not be relied upon. Then came the Census Bureau at Washington, D. C., introduced its model system of registration. The elaborate details of this system have been carried out faithfully by the bureau which I head, to this day. We have not adopted the many short-cut but nevertheless inefficient methods now employed by some of the younger states in the union.

Medical and surgical practice is constantly changing. More advanced methods of treatment require accurate and precise details. If such information is to be obtainable in the future for the benefit of the medical profession and the public, it must be recorded in the present on birth and death certificates.

Today the Census Bureau in Washington is seeking more and more details regarding the birth and death of John Citizen. We are endeavoring to supply this information and if we do not obtain it ourselves from the attending physician or midwife, Washington will have to go into the matter with them.

Perhaps it is well to explain that the Census Bureau at Washington requires every state department of vital statistics to have recorded (not reported) 90 per cent of all births and 90 per cent of all deaths occurring in the state. When this check is made by the federal government, all certificates must be complete in our office. That is the reason why we are so persistent in having reports completed and filed on time.

At the present time there is manifest a tendency among physicians to leave certain portions of the death certificate incomplete. I have reference particularly to those sections that seek information as to the organs involved, the parts of the body and in accidental death, the exact cause of death and through what particular means.

Again, the Louisiana department of vital statistics has augmented its educational work with a hope of encouraging a greater appreciation for the importance of the birth and the death certificate.

Through the cooperation of Dr. Charles Bass, Dean of Medicine, Tulane University, it is now possible to reach the young doctor of Louisiana before he receives his diploma. About once a month, the graduating class of Tulane University is given an hour's lecture in the department of Vital Statistics of the State Board of Health, in the proper and complete way to fill our certificates. Besides these lectures, a quantity of literature is disseminated among them. It is hoped that when the State Medical Society

meets in New Orleans next year we will be able to reach all doctors in the state in a similar manner.

A close perusal of our records reveals that we have succeeded in gathering 567 more birth certificates in parishes outside New Orleans in 1929 than in 1928. If the year's count remains open until June 1, as it did for 1928, the year 1929 will be a banner one. The following are the number of certificates filled for the respective years:

| 1928 | 1929 | |
|---|---|---|
| 31,948 | 32,515 | 567 increase over 1928 |

This increase is due largely to the cooperation of Dr. Joseph A. O'Hara, president of the State Board of Health and Dr. Akin, Director of Parish Health Units. They have made it possible for the Bureau of Vital Statistics to carry on an educational campaign through the 31 parish health units and with the efforts of six special agents. For the past eight months, unit directors and special agents have visited doctors and midwives and local registrars with the purpose of advising them of the latest methods of obtaining and supplying the data needed.

In conclusion, I would like to take this opportunity of briefly enumerating the main causes of death, comparing the number of deaths from these main diseases in 1929, with those of 1928. I wish to direct your attention particularly to how the death rate from cancer has maintained over a four-year period. In 1926 there were 1252 deaths; in 1927 there were 1310; in 1928 there were 1330; and in 1929 there were 1343.

For the convenience of those interested in the subject of cancer, I have prepared a table which gives not only the number of deaths from cancer for these four years but also tabulates these figures according to the eight major forms of cancer.

The following are the main causes of death throughout the state with resultant totals for the past two years:

| | Deaths | | | |
|---|---|---|---|---|
| | 1928 | | 1929 | |
| Typhoid | 262 | | 221 | |
| Malaria | 251 | | 206 | |
| Influenza | 1275 | | 1654 | |
| Pneumonia (all forms) | 1961 | | 1798 | |
| Pulmonary tuberculosis | 1695 | | 1664 | |
| Other tuberculosis | 108— | 1803 | 145— | 1809 |
| Diseases of the heart | 3763 | | 4023 | |
| Diseases of the arteries | 227— | 3990 | 282— | 4305 |
| Diseases of the kidneys | 2381 | | 2337 | |

CANCERS.

| | Deaths | |
|---|---|---|
| | 1928 | 1929 |
| Cancers and other malignant tumors of the buccal cavity | 66 | 60 |
| Cancers and other malignant tumors of the stomach | 340 | 317 |
| Cancers and other malignant tumors of the liver | 128 | 121 |
| Cancers and other malignant tumors of the peritoneum, intestines and rectum | 144 | 121 |
| Cancers and other malignant tumors of the female genital organs | 254 | 292 |
| Cancers and other malignant tumors of the breast | 110 | |
| Cancers and other malignant tumors of the skin | 46 | 47 |
| Cancers and other malignant tumors of other or unspecified organs | 242 | 300 |
| | 1330 | 1343 |

DISCUSSION.

Dr. J. W. Sandidge (Shreveport): It is with great hesitation that I shall attempt to even discuss this paper, because Dr. Dempsey has given so much thought and time and study to this subject, that it is a very important matter and I don't feel I can add anything to what he has said, except from the health officer standpoint.

Ordinarily, most people consider vital statistics a very dry subject. I feel if I could talk to you and offer you something wet I might have more friends than I would discussing this subject.

Dr. Dempsey has explained in detail the requirements on the certificates, how carefully these should be filled out, and I know some of the doctors wonder how we get these filled by midwives because many times they can't write or read, and are very ignorant. Generally, the midwife fills out a simplified form and carries it to the local registrar. In this way the birth certificates that are filed by midwives really carry correct information to a large extent. The midwives in some districts report about two-thirds of the births that occur, particularly in the districts where there is a high percentage of negroes. However, even with that the midwives are so terribly ignorant at times it is very hard to get them to take the information even to the registrar.

As an example of that, we recently requested the midwives in this parish, about 140, to report to us each month by self-addressed card, the idea being that if they had no births we should hear from them just the same. If they did have births, they would file those with the local registrar. Therefore, we have given them cards and have instructed them to mail the cards certifying that they have attended no case of birth during the month.

About a month after we gave them out we received this one back. I want to read it to you without any comments:

> "It has been a month on the nineteenth since I sent the other card. The reason I did not send this one on the nineteenth, I was expecting to catch one. I caught one on January 22, 1930. Mother, Matty Lee; father, John Henry Lee; baby, Rosy Lee. It is a girl.
>
> P. S. Send some eye drops. I am expecting to catch two more."

From a public health standpoint, from a local health officer standpoint, it is very important that we have the full record of all the births and deaths occurring in our respective communities because it gives us a great deal of information. It enables us to carry out our work much better.

Some of the reasons why this is important could be summed up as follows: The health officer can compare the general health conditions of his community with other communities by the general death rate—that is, to a certain extent. Populations consist of the same people, the same age groups. He can estimate the success of failure of health work by these death rates on communicable diseases particularly. Of still greater importance, he can determine whether he is devoting enough time to the control of certain contagious diseases.

A further point: At times when we get these certificates, as Dr. Dempsey explained, sent direct to the local health departments, and then sent on to the State Board of Health, we are able to detect an outbreak of contagious diseases that haven't been reported. That is not very frequent now. The doctors are reporting communicable diseases much better.

It is also important that the local health departments know the number of births occurring in their communities because infant and child hygiene programs can be planned so much better if we know the number of babies in the community.

## THE CONTROL OF VENEREAL DISEASES IN MISSISSIPPI WITH COMPETENT TREATMENT BY THE GENERAL PRACTITIONERS.*

HARDIE R. HAYS, M. D.,

JACKSON, MISS.

In a conference on venereal disease control, called by the Surgeon General of the United States Health Service in Washington during the fall of 1920, the statement was freely made by our leading specialists that there was enough knowledge then in the hands of the physicians of America, if put into operation, to control venereal diseases. To back this statement up the experiences of the armies during the late war were quoted. The statement went unchallenged, although practically every state in the Union and many of the South American countries were represented. The Inter-Departmental Social Hygiene Bureau being of this opinion, made its budget, setting aside for treatment 50 per cent of the appropriations handled by it. During

*Chairman's Address, read before the Section on Hygiene and Public Health, at the Sixty-third Annual Session of the Mississippi State Medical Association, Vicksburg, May 14, 1930.

the life of this bureau until 1924 it would seem that the venereal diseases were held in check throughout the United States for at a conference held in Hot Springs in 1924, Mississippi was the only state that reported an increase in venereal diseases, though Dr. Edward Keys, chairman of the meeting, made the observation that perhaps Mississippi was the only state whose statistics were sufficiently representative to show the real condition. Up to this time the major part of treatment was done by clinics with follow-up agencies made possible by federal, state, county and municipal appropriation. The boards of health were well aware that the appropriating bodies would not long continue the appropriations and every effort was made to get patients into the hands of physicians and to get the physicians to study the latest methods of treatment which were being recommended by the outstanding specialists of the United States.

Dr. Keys of New York, Dr. Hazen of Washington, Dr. Fordyce of New York, and Dr. Stokes, formerly of the Mayo Clinic, but at present of the University of Pennsylvania, were all employed by the Surgeon General as consultants and were requested to write freely and discuss at the different medical associations the problem of venereal disease control. Pamphlets were distributed on the simplified treatment of gonorrhea and much literature was written on the treatment of syphilis. Every effort was made to acquaint the medical profession with the ideas of treatment held out by these men who had devoted their lives to the treatment of venereal diseases. The methods recommended by these men were put in vogue in the clinics fostered by the Public Health Service, and statistics will bear out that during that period venereal diseases were controlled. The last clinic was closed in Mississippi in 1924. The majority of the clinics, however, were closed in 1922.

At this point I will ask the audience to study for a few moments the sheets which have been distributed and which were prepared through the courtesy of the Bureau of Communicable Diseases of the State Board of Health. These sheets record seven of the communicable diseases from 1919 to 1929 inclusive. Please do not throw away these statistics, but take them home with you for they contain much that is worthy of your consideration.

At the extreme right hand is shown a column setting out the average of these diseases for 11 years. This we will use as a measuring stick. In the first place, beginning with typhoid fever you will observe that this disease is being controlled. Smallpox in a like manner is being controlled. Diphtheria was but very little below the 11-year average, while scarlet fever was a little above, and tuberculosis a little below—but look at the venereal diseases! Using our measuring stick, we find there were in round numbers more than 7,000 cases of syphilis and 9,000 cases of gonorrhea reported in 1929 than were reported on the average of 11 years, showing that these diseases are going wild. To substantiate the point first made that they were being controlled as long as the clinic methods were in vogue, we see that the statistics were well below the average through 1924. What has happened since that time?

INCIDENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI
As Reported to
THE MISSISSIPPI STATE BOARD OF HEALTH
During the Years 1919-1929, Inclusive.

| Diseases | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | Aver. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Typhoid fever | 3611 | 2644 | 2665 | 2230 | 1690 | 2470 | 4415 | 2613 | 1597 | 1517 | 1315 | 2433 |
| Smallpox | 2502 | 3148 | 2161 | 729 | 292 | 711 | 1216 | 639 | 368 | 370 | 37 | 1106 |
| Diphtheria | 1676 | 2225 | 3095 | 2387 | 1766 | 1217 | 1370 | 1369 | 1630 | 1225 | 1786 | 1795 |
| Scarlet fever | 1256 | 1610 | 994 | 482 | 428 | 474 | 459 | 736 | 1017 | 923 | 934 | 846 |
| Tuberculosis | 4803 | 4180 | 3302 | 3012 | 2930 | 3508 | 4099 | 4100 | 3517 | 3196 | 3460 | 3646 |
| Syphilis | 8771 | 7438 | 5021 | 6772 | 7278 | 9719 | 12318 | 14683 | 14233 | 15529 | 17001 | 10796 |
| Gonorrhea | 18736 | 14388 | 7915 | 9620 | 11307 | 13960 | 18558 | 22559 | 22210 | 24557 | 26355 | 17287 |

It is not the intention of this paper to set out any new rules for treating these age-old diseases, nor am I going to emphasize any one of the volumes which have been written on their control. If I can bring this subject to your attention with sufficient force to cause you to study the statistics and become aware of the awful onslaught that these diseases are making, and can arouse interest enough to cause a free discussion to the end that the general practitioner will realize that these people are coming to him first and that he holds the key to the situation, I will feel that I have been quite repaid for any thought which I might have given this subject.

I heard a negro preacher once laying out the "pints" of his sermon and I thought that we all would do well to emulate his example whenever discussing any subject. He said the first "pint" is "Whare is ye?" the second is "Whare is ye gwine?" and the third is "How is ye gwine git thare?"

Answering the first one of these points, I believe that we can agree that we are in the unenviable place of having venereal diseases running wild and uncontrolled in our state with no definite program made or in the making as to their control. This fact is evident from the statistics quoted.

In order to answer the second point, I will hasten to explain that I am not reaching for a star when I say that I believe that venereal diseases can be controlled in Mississippi if the general practitioners can be made to feel their responsibilities in this matter and we can get the proper appropriation into the hands of the State Board of Health and get the assistance required. We are told by Dr. Parham, former Assistant Surgeon General, who is now State Health Commissioner of New York, and by Dr. John Stokes, Professor of Syphilis is the University of Pennsylvania, writing in the American Medical Journal, that venereal diseases have been controlled in the European countries and especially does England show marked reduction in these diseases. I did not refer to what was being done in the European countries with the idea of recommending their methods, even though they have been successful, for the difference in free America and the European countries is apparent to everyone who has visited over there, and we are well aware that the methods of handling people used over there could never be a success in the States.

In thinking of our third point, it is well to consider some of the fundamentals without which the control of venereal diseases is impossible. No where in all of medicine is it more imperative for a physician to make a complete, careful examination of the whole body than when dealing with the venereal diseases. If a person be broken in bodily resistance, a physician would have an almost impossible task to cure his gonorrhea. In a like manner to begin giving anti-syphilitic remedies to a man with nephritis or some other crippled organ would be very hazardous. A careful investigation should be made regarding all pathology which is disclosed in the complete examination and treatment ordered that will take care of the pathology presented.

It is believed that one of the reasons that the lay public is going to drug stores, negro doctors, and quacks of all kinds for treatment of venereal diseases is because the average physician is thinking too much in terms of treating gonorrhea instead of treating the man with gonorrhea, and of giving "shots" instead of treating a patient with syphilis.

I am making this appeal, especially to the general practitioner because the treatment of the venereal diseases rightly belong to him. It is only when complications arise and when we require unusual study and special skill that the specialist should be consulted. It is apparent that, if venereal diseases and their complications were taken away from the human family, a big source of revenue would be taken out of the hands of the doctors. It is no more difficult for a physician to prepare himself to treat acceptably gonorrhea and syphilis than it is to prepare

to feed a baby scientifically, and although all of us were babies one time it is believed that there are more venereal disease to treat than there are feeding problems among the babies. Every patient, no matter what his financial standing is, is entitled to the best medical treatment available to him and ample treatment for everyone is a goal, I believe, that every medical man, who is thinking in terms of service, is anxious to see reached. If people are able to pay, the profession should get the money; however, if they are not able to pay, then they should be well treated. Some provision should be made whereby they can receive treatment which will insure that these diseases will be brought under control.

I do not want anyone of you to get nervous; I am not going to propose that the Public Health Service, either the state, federal, or local, enter into the treatment of patients. This is the province of the doctor. It is his duty to provide curative medicine. It is the public health authorities' problem to prevent the spread of disease and to control infections.

Leadership is always at a premium. Few general practitioners have time to get out and organize physicians into any movement. In view of the fact that the control of infectious diseases is a state health function, upon them should rest the responsibility of organizing the physicians into treatment groups. The public health agencies should assist the physicians in bringing under treatment all people infected with venereal diseases, and the physicians should adequately provide for all such people calling upon the health workers to stimulate interest in any who were neglecting their treatment.

The local physicians who know the situation should decide upon the ability of people to pay, realizing always that very few who are able to pay will try to take advantage, and these few had better be treated for the benefit of the public and for their moral support in the campaign than to be antagonized or made an enemy of because of refusal.

It is believed that one of the greatest impediments to successful treatment is the charge per "shot" or per office treatment. If a person is to have one, two, or three "shots," he would be better off without them and it may be stated that a dose of arsphenamine is not worth the cost of the medicine used much less $10.00 to $25.00 unless the patient can have the advantage of a series of well-though-out procedures which will bring about an arrest of the syphilitic or gonorrheal process. If we could forget for a time our prices per "shot" or per office visit, and think in terms of remuneration for well-treated patients, we would take a great step forward in the control of venereal diseases. It is hoped that we may here work out some plan that we can carry back to our venereal disease patients which will show them that we are anxious to give them value received rather than sell them the fad that so many patients are on to—namely, taking "shots."

If I understand it right, the function of the chairman's address is to give this section, in a concise way, some problems which are worthy of their solution, and make certain recommendations which will tend to point to some solution, or which will provoke discussion which may lead later to the solution of these problems. To this end we may sum up the points I have attempted to make in this paper—namely:

(1) The venereal diseases present the most urgent problem that is confronting the state today.

(2) Our early efforts, together with the experience of other countries, have proven that they can be controlled.

(3) The problem of control is up to the general practitioners to whom the cases first present.

(4) Only by some provision which will allow every case, no matter what his financial standing is, to become treated to a suc-

cessful cure, can we expect to make headway in the control. Financial arrangements should be made with the end in view of arresting the patient's disease rather than making the basis of charge so much per visit.

(5) Ample appropriations should be secured for the Public Health Service which would provide enough assistance for the indigent, and a corp of field workers which would get the patients into the hands of physicians and do the follow-up work necessary.

DISCUSSION.

Dr. D. J. Williams (Gulfport): I do not want to discuss this paper, but at the same time, I do not want it to go by without discussion because of its importance. I do not believe that venereal diseases at this time are running rampant as they formerly did. Those of us who have some recollection of the red light districts know full well the part they played in the spread of venereal diseases. Those conditions do not exist in this state and adjoining states as they once did. Many of us do know the habits of the average young man. They are not as promiscuous as formerly, and intercourse with the negro race is not as prevalent as it used to be, and I am convinced that prevention has done that. My friend, Dr. Hays, knows full well that you can jump up statistics. He is so thoroughly grounded on this work that he cannot get rid of the idea that the whole race is doomed. This has been a most excellent paper, but when we study the other side we can easily see that there are many things that do not sustain the position taken. I had some experience during the war; my experience has not been as extensive as Dr. Hays' but my work at one of the camps was looking after the spread of venereal disease to some extent. I want to say that with our present knowledge and means of prevention we are in much better position than ever before to control these diseases. I remember examining six prostitutes who had been reported as responsible for the spread of venereal disease, and I never examined six cleaner women. They had been taught to use modern methods of cleanliness. When that knowledge is universal you will find there will be less and less spread of disease.

Dr. H. H. Haralson (Vicksburg) opposed the idea of venereal clinics. He expressed himself as dissatisfied with the manner in which those with which he has been familiar were conducted, and considered them an encroachment on the rights of the private physician.

Dr. L. B. Austin (Rosedale): I arise to ask a question. The State Board of Health is in a quandary. We do not know how to meet the situation. We assembled 3,000 colored people and took Wassermann tests. We had 23 per cent positive Wassermanns, and a doctor from Hot Springs, who is an expert on syphilis, says that 20 per cent more had syphilis. That makes 43 per cent in that community. The superintendent of education there tells me there are 20,000 children in the public schools. On that basis, that means there are 10,000 people with syphilis who are not being treated, and who are going to fill our jails and penitentiaries and hospitals. Are we going to wait until we send them to jail or are we going to try to do something now? And does the medical profession desire the State Board of Health to take some steps to correct this situation?

Dr. W. A. Dearman (Gulfport): The question of venereal diseases is a rather broad subject. The general practitioner is not going to take up his time treating these cases. They have to have a long continued course and it is a tedious affair. I got into trouble on this matter of reporting cases. I reported them by name, and one of the cases was a prominent man. He got a lot of literature from the state board and he came into my office about it—it got me into a very bad situation. You can report them by number, however, and I have done that since. The question of prophylaxis arises. This question of contraception has been broadcast all over the United States. I say that the individual who endorses general contraceptive measures is a menace. That is not the way to fight this problem. Do not let them get married. The people who launch these lectures on contraception say the information is for the doctor, not for the layman, but it is not twenty-four hours before women come in for information. Women go to these lectures; they endorse them. I say, why not stop the feeble-minded from getting married? Syphilis is not running wild; gonorrhea is not on the increase. A young man does not know about the danger of gonorrhea. I do not treat it; I send them to the urologist. I see people getting married every day who have not been cured for ten days. I believe in stopping them from getting married, keeping them under observation and under treatment. And I do not believe in endorsing these contraceptive measures.

Dr. Hardie R. Hays (closing): In reply to Dr. Williams, I hope we will get these statistics. I do not believe in statistics for one year, but if you take a series of eleven years in which all the men in Mississippi have been making about the same mistakes they made in other years, the average is a pretty good picture of what happens. I say venereal diseases are on the rampage. Smallpox we are controlling; scarlet fever we are

controlling; diphtheria we are not controlling. Up to the present time venereal diseases have outstripped all other diseases. Relative to teaching young men and young women. I spent several years talking to high school boys and girls. I went into every country school and every school in the state, and I was of the opinion that education was the real safeguard against contracting venereal disease. I believe education plays a big part, but unless the disease is properly treated we are not going to get anywhere. In reply to Dr. Haralson, I am not connected with the state board—I have not been since 1925, in case your remarks were intended for me personally. With reference to what Dr. Austin said. I wish there had been more doctors like Dr. Austin working with us. We have a real problem in the State of Mississippi. What I want to do is to get the general practitioner to go home with the idea of organizing his community so that these diseases may be treated. We do not want to have patients coming continuously to our office with gonorrhea, where we are receiving no remuneration for the treatment, yet these people should be treated, and the responsibility is on us as doctors to treat them. We do not want the state department to treat disease, we want to take care of that ourselves. I am trying to make that point. We do not want the Health Department to treat diseases. The reasons for the clinics was to teach people that the drug stores were not the place to go for treatment, and as soon as the people of Mississippi were educated to go to the doctor, we closed the clinics. For that reason they are going to doctors instead of to the drug stores and to quacks. I wish there were more doctors like Dr. Austin, because you are having experiences like that right in your home town. I was very much surprised when I found what these statistics were; when I got into general practice and began to see what conditions were I found these figures do not represent the half of it. If we would go out and study the thing we would see that it is the biggest problem we have to face. Dr. Williams said syphilis is not running rampant. If he were to go through his cases and check those who are affected by the aftermath of syphilis he would think differently. The whole thing in this paper was my desire to put an incentive before the general practitioner to organize ourselves to accept the responsibility and treat these patients some way or other. If we do not want them coming to our offices we should organize some way to take care of them at a clinic—anything so that they may have treatment—anything to stop the ravages of disease.

## THE IMMEDIATE HANDLING OF SCIATIC PAIN.*

HENRY DASPIT, M. D.,†

NEW ORLEANS.

Contrary to what appears to be custom I will not offer for your consideration a learned and highly technical presentation but will call to your attention a very simple and useful procedure which any practitioner of medicine may employ in the patient's home. Too many so-called high-powered specia'ists take up the time in a gathering of this sort to glorify themselves and leave the man who is practicing in rural surroundings with nothing other than that he has no alternative but to refer his many problems to the erudite specialist. While it is certainly true that there are some problems which must be referred to highly developed medical centers for detailed diagnosis, as well as the handling for which the practitioner is not equipped, quite a large majority may well be cared for in the patient's home. I feel that it is our duty to place in the hands of the general practitioner, those easily applied procedures which will smooth out his many difficulties, add to the comfort and well-being of his patients and materially reduce the cost of medical care.

I would call to your attention the utility of sacral epidural injection for the relief of many forms of persisting lower half body pain of several varieties. It should not be regarded as a specific cure but rather as a measure to assure the patient comfort while the clinician investigates further as to the remedy of the underlying cause. I have nevertheless seen several instances where, following sacral epidural injections, pain has ceased and not returned for more than one year. In the majority of these cases there was nothing definite to account for the

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pain and all met the requirements of true sciatica.

It would profit us little to go into the differentiation of the varied conditions which give rise to pain in sciatic distribution. Suffice it to say that real sciatica is a very rare condition and the term is improperly used to cover sciatic pain in general, irrespective of the essential cause. We will talk about the relief of pain and not the remedy of the disease it represents.

It is wise to reserve sacral epidural injection for those cases in which relief has not been secured by usual therapy. This does not include the brief or prolonged administration of morphine, etc. It is to be noted that the procedure is very simple and that no contraindications whatever exist.

The patient is placed in the lateral position with the involved side down. He should lie across the bed or table with thighs flexed on the abdomen and the gluteal region close to the edge of the bed. At the sacro-coccigeal junction, often visible and always palpable, will be noted the superior median protubrance and the lateral tubercles, horn-like eminences, which are the landmarks. The skin and pathway of the injection is anesthetized with 1 per cent novocaine or other anesthetic of choice. For the injection proper, an ordinary spinal puncture needle is used. This is inserted into the sacro-coccigeal foramen and further into the sacral canal for at least one inch and not further than two inches. The use of a large syringe admitting of rapid introduction of the fluid under pressure is desirable. Some have advocated the initial injection of about 10 c.c. of low strength anesthetic solution followed by Ringer's solution or normal saline. The preliminary introduction of the anesthetic solution is not essential and merely serves to reduce the discomfort of the massive injection. It plays no part whatever in the final relief of pain. The total bulk injected should be between 60 and 80 c.c. It has been my experience that for routine use normal saline is quite adequate and gives as satisfactory results as less accessible solutions. It has the advantage of ease in preparation and is always available. Other substances, such as liquid petroleum have been advocated and certainly have a decided field of usefulness, irrespective of the fact that some observers fear emboli as the result of their use.

There is but one danger and it is most unlikely if the physician is in the least observing. This is the thrusting of the needle into the sacral cavity and penetration of the rectum or other quite important structures. Should the needle be carried through and the infiltration made on the anterior aspect of the sacrum, no harm will be done and no relief of the pain will result. The lack of results under such breach of technic will cause the uncritical observer to discredit the procedure. If the needle is carried to the posterior aspect of the sacrum and the infiltration started, this should be immediately apparent and the needle should be properly re-inserted.

It has been recommended that the patient remain in bed for a few days following the treatment. This is not essential and should be judged by the probable source of the pain as well as the relief gained by the injection. No definite rule may be given. More than one injection is frequently necessary and this is the case in the majority of instances. Three or four usually suffice. As the procedure is harmless, where proper asepsis is provided, the number of treatments is not a matter of consequence. The occasional necessity for repeated injections has brought up the question of the desirability of employing an unabsorbable substance as liquid petroleum.

There is some question as to the mechanism of the relief of pain by the injection of non-anesthetic solutions into the sacral canal. In all probability the relief is secured by stretching of the roots and by alteration in circulatory conditions. The anesthetic effect of the small preliminary injection of novocaine, etc., used by some observers has been credited as a factor, but this may

be ruled out, as in the great majority of the injections given by us, the preliminary anesthetic solution has not been employed and only sterile normal saline used. I do not feel that a secondary inflammatory reaction plays any part.

From a number of cases in which the sacral epidural injection has been used, the following few are cited as demonstrative of the utility of the procedure.

CASE REPORTS.

White male, aged 32 years. Attack of posterior thigh and leg pain of two days duration meeting all neurologic requirements of true sciatica (not a perineuritis or a neuritis). As the patient had come to New Orleans for the specific purpose of sailing in the star-boat races and intended being south but for a brief period, no thought was given to underlying factors and it was decided to attempt to merely relieve the pain which was so severe as to necessitate analgesic and rest in bed. The patient had experienced a previous similar attack of pain extending over a period of some weeks. The matter was explained to him and instructions given that he report to his physician in New York for more detailed survey. 70 c.c. of normal saline were injected, under pressure, into the sacral canal at 9 a. m. Late during the afternoon of the same day, the patient was entirely free from all pain and was comfortable in the face of violent physical exertion. He sailed his boat for the next four days without any discomfort whatever. Three weeks later he wrote that there had been no recurrence of the pain and he would report to his physician as advised.

White male, aged about 54 years. Diagnosis: Sarcoma of pelvis—right. Right leg pain so severe as to necessitate use of morphine up to four grains daily. Injection 65 c.c. of normal saline in the sacral canal. Prompt relief of pain except for minor discomfort referred to the upper, inner aspect of thigh-obturator. No morphine needed after injection. The patient was pain free for one week and then a very gradual return of pain. Considering the nature of the condition and the relief secured by epidural injection, it was decided to employ liquid petroleum. 40 c.c. of sterile liquid petroleum were injected into the sacral canal. Pain was relieved. Six weeks later, the patient walked into my office and reported complete comfort in the interval. No analgesics. He has been lost sight of.

While male, aged 50 years. Diagnosis: Tabes dorsalis. Complaining of persisting lancenating pains in legs and feet though he had been Wassermann negative for at least eighteen months (spinal-fluid). After three sacral epidural injections of 70 c.c. normal saline at weekly intervals has been free from pain for one year. Previous to the injections, the pain has been of at least weekly occurance. It is appreciated that it is unwise to draw deductions as to the response of tabetic pain to any type of therapy if one understands the erratic behavior of this type of pain. The above response to epidural injections merits report as it has been duplicated in other cases.

White male, aged 30 years. Bilateral arthritis of hips with severe bilateral leg pain and who had been confined to bed for weeks was able after third injection to get about fairly comfortably with two sticks. In this case no analgesics were used. The arthritis was not affected in the least.

Marked benefit was obtained in several cases of leg pain secondary to sacro-iliac arthritis or strain.

We have had little or no experience with epidural injection in the relief of painful conditions of the perineum and genitals but we are inclined to feel that these areas (terminal cord) offer a field of much usefulness for the procedure. We agree with Viner of Montreal that little is to be expected where the pain is the result of vascular disease. In instances of pain secondary to disease involving the sympathetic nervous system, we have no experience but anticipate much.

Nothing original is claimed for the above. Sacral epidural injections have been used for at least twenty years by many observers here and abroad.

SUMMARY.

Sacral epidural injection is offered as a relief for pain, other than of vascular origin, occurring below the distribution of the mid-lumbar segmental area.

It is not offered as a curative procedure though in occasional cases the relief appears permanent.

DISCUSSIONS.

Dr. Roy Carl Young (Shreveport): I was very glad to hear Dr. Daspit's paper today, especially due to the fact that he brought out such an important procedure; one that is quite simple; one that can be used by every physician.

We have been using this procedure for the past two years and a half, and have been getting very

satisfactory results in our cases; both in private practice and in the neurological ward of the Charity Hospital. The trouble with the procedure is that the patients come in with an acute sciatic pain; are given one injection which gives relief to such an extent that they leave the hospital before the original cause of the condition has been found and removed. I recall one case that has been in the Charity Hospital in one of the other services, through mistake, that had had a unilateral pain which was typical of sciatica. The case had been in about two weeks, and at that time was getting about a grain or a grain and a half of codein a day for the relief of pain. The interne called me up and asked me to come out and show him the technic of the injection. I went out about nine o'clock and gave the injection. I saw the interne the next day and asked him how the patient was, and he said the patient left about five o'clock that afternoon without any pain at all.

We have used it several times in tabes dorsalis and obtained very good results. It has been recommended—and this should be of interest to all of you, especially those doing surgery—very highly for the relief of pain in the amputated leg or stump pain. I haven't had the opportunity of trying it in a case of that kind, but I just mention that.

I have never used the liquid petrolatum, but I see no reason why it shouldn't be used. There should be very little danger of an embolus. We have used routinely in our cases from 10 to 20 c.c.'s of one per cent novocain followed by 60 to 80 c.c. of normal saline.

Dr. Daspit brings out the point that he has his patient in the lateral position, and with the affected side down. I think that is an improvement over the position I have been using because I have been having the patient lie flat on the abdomen with one or two pillows under the hips in order to get slight elevation. I think I will modify that technic a little bit on my next case.

Dr. Daspit has brought out something that will absolutely give us more relief than hypodermic injections of morphin in cases of this kind, and at the same time, gives us a splendid opportunity to go ahead, find the original cause and remove it.

I have enjoyed Dr. Daspit's paper very much.

Dr. Daspit (closing): Naturally, there is very little I may say in closing except to again remark to the general practitioner, particularly the man way out in the country, that when he gets these persistent sciatic pain cases that yank him up in the middle of the night, try the parasacral massive infiltration. Of course he will keep patients with him, to our detriment in the cities, but it will help the patient very much.

## PERINEAL PROSTATECTOMY.*

DAVID M. DAVIS, M. D.,

BALTIMORE.

The object of the so-called prostatectomy is to remove the obstructing masses of benign prostatic hypertrophy from the prostate. Two methods have been devised, the suprapubic and the perineal. The most violent and bitter controversy has raged over the respective merits of these two methods, but fortunately the bitterness of this controversy is now dying out with the general recognition of the fact that both methods are, in competent hands, highly successful. I am here to present the case of those who prefer the perineal approach. It is not that we think the perineal good and the suprapubic bad, but rather that we think them both good, with the perineal a little better.

Surgeons first became acquainted with the prostate through the perineal route while performing perineal lithotomy. With the idea of removing the prostatic enlargement first suggested itself, the perineum was naturally thought of as the route of approach, since it is in this direction that the prostate lies nearest to the surface. The theoretical advantages of perineal prostatectomy have always appealed to surgeons and they may be enumerated as follows: 1. Vision. When the prostate is operated upon through the perineum, both the interior and the exterior of the prostate come easily and directly into the view of the surgeon, so that he is able to see what he is doing.

2. One of the advantages gained from this visibility is that one is able to inspect, palpate, and cut sections from the posterior portion or lamella of the prostate. It is in this portion of the prostate that cancer usually begins and we are thus able to make a positive diagnosis when this disease is present and alter the operation if need be in deference to the malignant growth.

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3. Owing to the fact that the enlargement of the lateral lobes is usually greater than that of the median lobe, there is usually in the perineal operation less danger to the internal sphincter since the lateral lobes are not pulled through it. As a result, conditions in that region are more apt to return fully and promptly to normal.

4. There is better drainage after the operation of the cavity from which the prostatic enlargement has been removed. This advantage appealed to some of the early suprapubic operators, of whom Fuller, Lynn Thomas and Marion went so far as to drain the prostatic bed through the perineum after suprapubic prostatectomy and Andrew Fullerton is now advocating this procedure again. That inflammatory products do col'ect in the prostatic bed is easily shown by the large amount of debris obtained at each irrigation through the urethra after suprapubic prostatectomy. Such a collection cannot occur after perineal prostatectomy.

5. Hemorrhage control by means of a perineal bag is more certain, and one can assure himself absolutely that all bleeding has stopped before concluding the operation.

6. It is possible to get the patients out of bed sooner after the operation which is very important as a prophylactic measure against pneumonia. There is a'so reason to believe that greater activity on the part of the patients tends to prevent an intravascular thrombosis which may lead to pulmonary embolism.

7. With the perineal operation, the danger of ventral hernia, not infrequently seen after the suprapubic operation, is entirely eliminated.

Keeping these points in mind, it is interesting to follow the development of the perineal operation. The first perineal prostatectomy was undoubtedly performed by some perineal lithotomist, whose forceps seized a pedunculated middle lobe instead of the stone he was expecting to grasp. Fullerton states that Covillard did this in 1639. In a few cases, the fortunate surgeon noticed that this unexpected event was followed by the cure of the patient's symptoms. Guthrie, in England, appreciating the mechanics of prostatic obstruction, proposed and carried out an operation in which the prostate was incised through a perineal incision. The first, however, to formulate a definite operative procedure, based on the conception of premeditated removal of enlarged prostatic lobes, was Dittel, who carried out this procedure in 1885. At about the same time, Goodfellow, in this country, followed in the same path and with much success.

Other names associated with early perineal prostatectomy are those of Ferguson, Bryant, Landerer and Socin, all of whom aimed to remove only the middle lobe. In addition, Kuster, Schede, Woolsey, Castellana, Verhoogen, Rydygier and Riedel abroad, and Alexander and Bryson in this country also used the perineal operation and advanced further toward complete removal of the prostatic enlargement. The great difficulty which they encountered was that the prostate, exposed through the perineum, tended continually to slip away from the exp'oring finger. This difficulty was so marked that Alexander, of New York, went so far as to make a small suprapubic opening through which he inserted a finger to push the prostate into the perineal wound. Parker Simms, also of New York, invented a rubber bag, attached to a catheter, which was passed into the bladder through the urethra. The bag was then inflated and by pulling upon the catheter he was able to draw the prostate up into the wound.

Modern perineal prostatectomy begins with Proust and Gosset of France, who carried out an extremely thorough and painstaking study of the anatomy of the perineum. They first showed clearly that in order to avoid damaging important structures, such as the blubous urethra, the triangular ligament, and particularly the external sphincter, the prostate should

be approached not by the mid-line incision, which tends to penetrate all these structures, but rather by a transverse incision, which allows the operator to approach the prostate between the rectum and the posterior edge of the triangular ligament. In order to facilitate the pushing back of the rectum, the transverse incision was made curved or angulated in the form of an inverted U or inverted V. They found and described the recto-urethralis muscle which must be carefully incised before the rectum will fall back. They discovered the two layers of Denonvilliers' fascia, between which lies the plane of cleavage, making easy the freeing of the prostate. Finally, they attempted to make possible the pulling up of the prostate by means of a small instrument called the Desenclaveur. This was composed of two curved blades, rotating one within the other, so devised it could be opened after being inserted into the bladder.

In spite of their extensive work, they finally abandoned the perineal operation, due largely, I believe, to the fact that the Desenclaveur was not really satisfactory for pulling up the prostate. The next important contribution came from Young, who followed the dissection described by Proust and Gosset, but who invented a tractor which made it possible for the first time to pull the prostate firmly and surely up into wound. This tractor is made, like the Desenclaveur of Proust and Gosset, with two curved blades rotating one within the other, but is much larger and stronger, and has blades long enough so that when they are opened, the instrument cannot be pulled out of the bladder. With this device, one can not only pull up the prostate but by turning the blades as the enucleating finger works against them, it practically equips the operator with another finger inside the bladder. Immediately Young became the greatest protagonist of the perineal operation. In spite of the fact that other surgeons all over the world were turning to the suprapubic, he continued to perform the perineal operation, to perfect its details and to instruct students in its use. As a result, it is now being performed more and more in this country and a few surgeons abroad are again beginning to use it.

All successful modern perineal prostatectomies either follow exactly the technic of Young or are based strongly upon it. I will therefore give a description of such an operation at this point.

In performing perineal prostatectomy, the position of the patient is of great importance. Ideally, the legs shou'd be spread wide apart, and flexed on the abdomen so that the surface of the perineum is almost or quite horizontal. For most cases of perineal prostatectomy, epidural caudal anesthesia is satisfactory. In a few cases it fails, when it must be supplemented by nitrous oxid or ethylene. For cases with myocardial insufficiency, ether is preferable, while for certain very nervous and apprehensive cases some form of general anesthesia may be necessary. Avertin given by rectum is a new anesthetic, but appears to be very satisfactory.

To begin the operation, one places a sound in the urethra, with the tip in the prostatic urethra, where it is held by an assistant. An inverted V or curved incision is made about 2 cm. in front of the anus, the ends of the incision being very nearly over the ischial tuberosities. With the finger and the hand'e of the knife, blunt dissection is then carried down into each ischio-rectal fossa, about 1½-2 cm. to each side of the mid-line. This dissection must pass posterior to the posterior edge of the triangular ligament, and extend to a depth of 5-6 cm. The bifid retractor is then put in place, one blade to each side of the mid-line. The central tendon is thus thrown into bold relief, is seized with forceps, and divided transversely. This incision should carry one along the curved posterior surface of the bulb urethra to the posterior edge of the triangular ligament. Another method of making it is to hook the finger under the central tendon and cut down on the finger. At this stage the rectum lies in the bottom

of the wound and can be identified by the longitudinal arrangement of its muscles. It is connected to the region of the membranous urethra by the recto-urethralis muscle, which is now divided. A longitudinal urethrotomy is then made as near the apex of the prostate as possible. The edges of the mucosa are seized with Allis clamps, the sound withdrawn and the Young tractor introduced in the bladder. When the blades are opened, the prostate can be pulled up, the lateral retractors are put in place, and the bulb retractor removed. Beginning at the apex of the prostate, one dissects carefully with the knife, keeping close to the tractor, until one reaches the plane between the internal and external layers of the fascia of Denonvilliers, covering the prostate. This can be recognized by its light colored shiny surface and by the ease with which blunt dissection proceeds. This blunt dissection is continued, taking care to free the tissues laterally as one goes down, until about 3 or 4 cm. of the posterior surface of the prostate is exposed. The posterior retractor is now substituted for the bifid, pulling the rectum back safely out of the way.

The prostate is now incised. My own preference is for the inverted V incision, though a number of others have been proposed. On the surface exposed by the V incision one can easily see the line of demarcation between the posterior lamella and the hypertrophied masses. The enucleation is started at this line by a blunt instrument and continued with the finger, freeing the lateral lobes posteriorly. In the neighborhood of the vesical orifice one works on one blade of the tractor, rotating it as necessary. With this aid, one separates the hypertrophied masses right up to the bladder mucosa, passing the finger across the midline to free the median lobe. The entire hypertrophied mass, in one piece, can now be pulled up and out of the prostatic capsule. The median lobe or any subtrigonal masses can be removed using the finger or a spoon retractor to pull them up, and a curet for removal. One finger is placed in the bladder, and with the index finger of the other hand in the prostatic capsule one can palpate thoroughly, disclosing any nodules which may have been left behind, or sometimes a subtrigonal intravesical lobe. Stones can be sought for and removed from the bladder with scoop or forceps. One can insert a urethral catheter or not, as one p'eases. Hemostasis is assured by means of a Davis bag which, after insertion in the bladder, is inflated and pul'ed down, acting just like a Hagner or Pilcher bag. This controls hemorrhage absolutely, and primary post-operative hemorrhage should be unknown. It has a central tube to drain off the urine. Irrigation through this tube at this stage proves that there is no bleeding within the bladder.

It is not necessary to suture the capsule, but probably better to do so. The posterior triangular flap is drawn up and fastened to a point as close to the apex as possible, on one side or the other, preferably with a mattress suture of chromic catgut. The levator ani muscles are then drawn together with one or two catgut sutures, leaving enough room for the removal of the bag. The ends of the central tendon are united by a catgut suture. The skin can be closed with any non-absorable suture desired, silk being the best, as it causes least discomfort. A gauze pad is placed over the wound, and a clamp put on the traction tape of the hemostatic bag to give a moderate degree of traction.

I shall mention seven complications which may follow perineal prostatectomy. The first is peculiar to the perineal method. It is a recto-urethral fistula. I think we may say that it is always caused by an injury to the rectum occurring at the time of operation, though very rarely it may not develop until three or even four weeks after operation. The only way to avoid this distressing complication is by care and skill in operating. There are four ways in which the rectum is usually injured, first, at the beginning, if the rectourethralis muscle is not properly divided, one may cut

directly into the rectum; second, while freeing the apex of the prostate the forward prolongation of the rectum may be cut if one does not keep close enough to the urethra; third, during the freeing of the prostate, and particularly if one neglects to free laterally in the direction of the levator and muscles, the rectum may be split by too forcible pulling on the lateral retractors, and fourth, the rectum may be cut or torn during the exposure of the prostate if one does not keep to the proper cleavage plane in Denonvilliers' fascia, or dissects on the rectum instead of on the prostrate. I can only say that all these things are avoidable. I have not yet had a recto-urethral fistula, and if I do, I shall feel that it is entirely my own fault.

2. Incontinence is a complication that seldom follows a properly executed perineal prostatectomy. I believe it is no more frequent than after suprapubic prostatectomy. It is avoided by careful preservation of the triangular ligament and external sphincter.

3. Epididymitis can be practically eliminated by preliminary vasectomy. When this is not done for any reason, as in the case of unusually young patients, epididymitis will occur in about 15 to 25 per cent, the same as with suprapubic prostatectomy. Careful preservation of the verumontaneum does not seem to have any effect on the incidence of epididymitis.

4. Impotence is fairly frequent after operation. In a large series of cases at the Brady Uriological Institute, it was found that very few of those impotent before perineal prostatectomy became potent afterwards, but that of those potent before, 80 per cent retained their potency later. I do not believe these figures are much if any different from those of suprapubic prostatectomy. The impotence is usually due to failure of erection, so that every effort should be made during the operation to stay as near the mid-line as possible and avoid injury to the pubic nerves. That nerve injury plays an important part is indicated by the not infrequent return of potency four to eight months after the operation.

5. Stricture may occasionally follow perineal prostatectomy. I believe its incidence is decreased by the use of an urethral catheter after operation. The beginning of stricture can be detected by occasional irrigation of the urethra, and its relief is by the simple passage of sounds, preferably armed with filiforms. Late stricture is extremely rare in my experience. Stricture occurs at least as often, if not oftener, following suprapubic prostatectomy, particularly if flaps of mucosa are left, or the lining of the membranous urethra pulled out.

6. Persistent perineal fistula is also extremely rare. When present, it is usually due to some abnormal condition internally, and will heal following the correction of this condition. I recall one dependent on an infected subtrigonal urethral diverticulum, cured by incising the roof of the diverticulum. In another case a persistent perineal fistula was caused by an infection arising in a diverticulum of the bladder, which had to be removed. I have recently seen a case in which a perineal fistula persisted for two years after perineal prostatectomy by another surgeon. Examination showed no anatomical lesion, but a severe infection with Bacillus proteus. Careful treatment over several weeks with antiseptics and acid washes sterilized the urine. The fistula closed during the treatment and has remained healed since.

7. This case brings me to the seventh complication, namely, alkaline infection. This infection is the bugbear of urological surgeons. When it occurs, the wound healing ceases, the surfaces become covered with a dirty grayish membrane, the wound has an ammoniacal odor, and in severe cases, all sutured surfaces may completely separate. It is seldom fatal, but lengthens convalescence tremendously, and spoils not a few good results. It is caused by the Bacillus proteus, is contagious from patient

to patient, and is difficult to eradicate. Prophlaxis is by keeping the urine acid, by avoiding unnecessary trauma during operation, by frequent change of dressings and scrupulous cleanliness, and by giving acriflavine by mouth before and after operation. When infection occurs, the wound must be irrigated frequently with an acid solution, usually acetic acid, strong enough to overcome the alkalinity of the wound.

Various criticisms have been leveled at perineal prostatectomy. The chief ones concern the likelihood of recto-urethral fistula, incontinence, impotence and persistent fistula. Another is that the obstruction is less likely to be completely removed. The first four of these criticisms have already been answered. As to the last, one can see and palpate the entire prostatic area in perineal prostatectomy, so that there is less excuse for an incomplete operation than in suprapubic protatectomy. Such a thing may occur occasionally with any method, but I will assert boldy that it will occur no more frequently, and probably less so, after perineal than after suprapubic prostatectomy.

Having disposed, to the best of my ability, of the criticisms of perineal prostatectomy, we may now turn to the final criterion—namely, results. First, as to mortality. In a series of 1561 cases of perineal prostatectomy performed at the Bray Urological Institute, Johns Hopkins Hospital, by Dr. Hugh H. Young, 63 patients, or 4 03 per cent, died. If to these cases are added 934 more, with a mortality of 4.88 per cent, performed by all other operators in the same institute, a total of 2495 cases with a mortality of 4.35 per cent is reached. From my own statistics, there are 75 cases with 4 deaths, a mortality of 5.3 per cent. It should be noted that these operations were performed in three different cities, and in five different hospital, only one of which had a trained staff. Causes of the 4 deaths were as follows: 1. Small secondary hemorrhage two weeks after operation, followed by ascending pyelonephritis. The patient was in splendid condition until the hemorrhage occurred. 2. Staphylococcus septicemia originating from epididymitis occurring two weeks after operation. 3. A fatal cerebral attack the night following operation in a patient 78 years old who had been bedridden from spastic paraplegia for years. 4. Influenzal pneumonia three weeks after operation. There was a hospital epidemic at the time.

Of my own patients, there is not one who was not relieved by the operation. In a few the function did not return entirely to normal on account of diverticula or cellules of the bladder, persistent infection, or renal calculi. There were no cases of incontinence, although in a few there was occasional slight leakage.

SUMMARY.

I have heard many persons say that perineal prostatectomy is an excellent operation, but so difficult that only a few are able to perform it successfully. I cannot emphasize too strongly that this is not true. It is true, however, that one cannot perform perineal prostatectomy successfully without any preparation, and that a good grounding in anatomy and the principles of operative surgery is necessary. The surgeon must then receive proper instruction, and operate on a few cases under supervision. If these requirements are fulfilled, any good surgeon can perform perineal prostatectomy successfully. In addition, he will find that it is actually easier than suprapubic prostatectomy, as he does not have to go so far to reach the prostate, and can see just what he is doing. I know this is true, as I have had the privilege of instructing a few young men. They all prefer the perineal operation. One of them was already thoroughly trained and practiced in suprapubic prostatectomy.

I have tried to show that perineal prostatectomy has certain advantages. It is my opinion that these advantages are very real. If anyone is convinced of the advantages, and wishes to train himself to perform perineal prostatectomy, he will find that the

difficulties are not greater and that with proper instruction he can master them. Whatever method of operation is used, however, results will depend on the care, judgment and thoroughness with which the pre-operative preparation and post-operative care are carried out.

## SUPRAPUBIC PROSTATECTOMY.*

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In the operative relief by suprapubic prostatectomy of hypertrophy of the prostate we have, in the great majority of cases, to consider certain factors which are as a rule, not involved in other surgical procedures, namely, those of age, as most of the cases requiring surgical relief for this condition have well passed middle age, and many of them are infirm or weakened by suffering and infection. Prostatectomy, though, is not attended by a greater mortality than that following any other major operation in the same class of patients. However, it may show a more favorable comparison by observing certain methods in handling these cases.

Before beginning the examination, an adequate history of the patient should be obtained, which should bring out in detail the symptoms at onset and the subsequent progress of the disease. An effort should be made to obtain evidence of gradually increasing obstruction and whether any changes in renal function have occurred.

Following this, a complete urological examination should be made in order to make correct diagnoses. In certain cases the diagnosis of prostatic hypertrophy is easy. With a history of frequency and difficulty of urination, rectal examination shows to the palpating finger a uniform enlargement which is smooth, elastic and confined to the prostrate. The catheter finds residual urine or a contracted bladder and the cystoscope enlarged lobes at the prostatic orifice and trabeculation of the bladder. However, there are many great variation in the findings; not infrequently the prostate is no larger than normal on rectal palpation. This may be due either to the fact that the spheroids are small or that they lie anteriorly or project into the bladder and are not perceptible on rectal examination. Here the use of the finger in rectum and cystoscope in urethra will generally show the presence of the enlargement which was previously unrecognized. Upon rectal examination the character of the anal sphincter should be noted, and its tonus described. Stricture or any important pathologic condition should be noted. The description of the prostate should be complete and systematic. The size, shape, prominence and effect upon the rectal lumen should be noted. The median notch and furrow should be examined and the consistency of the tissue in the median line recorded. Making pressure in the lateral line, one is usually able to detect lateral hypertrophy. Where the median furrow and notch are replaced by a very indurated plateau, carcinoma may be often suspected.

Before the question of treatment can be considered certain facts should be known in regard to the case. The size, character and induration of the prostate and seminal vesicles as shown on rectal examination; the amount of residual urine and the bladder capacity as shown with catheter or cystoscope; the condition of the bladder, trabeculation, inflamation, cellules and diverticular as shown on cystoscopic examination; the character of the urine, specific gravity, albumen, presence of infection or not; appearance time, 2 hours P. S. T. to determine kidney function and if low, blood urea; the condition of the heart, arteries and blood. Treatment may be divided in non-operative, pre-operative and post-operative.

The non-operative is applicable only to early cases, where the symptoms are not aggravated, the urine sterile, residual urine small (less than 100 c.c.), vesical capacity

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good (about 300 c.c.) and the bladder wall showing no great trabecu'ation, cellule or diverticulum formation, kidney function good and no evidence of cardio-renal disease; such patients may often be safely told they may wait. However it should always be made clear that an operation may at any moment become imperative.

It is through the pre-operative treatment that reduction of mortality has been obtained. This is the most important part of the prostatectomy. Some patients require only a brief period of preparatory treatment, some weeks and some even months. If this is not carried out you will find a very high mortality.

Some surgeons believe that a week or more of preparatory treatment should be given in every case, regardless of the condition present. I feel that this is unnecessary, but a thorough knowledge is essential in selecting cases for immediate operation. If there is the slightest doubt, or the slightest unfavorable symptoms appear, such as fever, leukocytosis, hematuria, marked pyuria, or any signs of uremia, or circulatory failure, operation should be offered. Delay is usually safe, haste may often be dangerous.

Probably the most dangerous cases are those that come with high residual urine. These cases can generally be diagnosed from history, marked frequence, difficulty of urination with a feeling of fullness after urination, incontinence of urine, abdominal distension and discomfort in pelvic region. These patients should be sent to hospital at once, a careful physical examination made, in which the blood pressure, cardiac condition, blood urea are determined. Retention catheter should be inserted but to empty the bladder at once is to court disaster. The catheter is attached to an irrigating decompressor apparatus, the vesical tension is determined, then the exit level is dropped 2 c.m. below the determined vesecal pressure. In decompressor apparatus 1:400 meroxyl solution is used and every effort made to prevent the bladder from becoming infected during the period of decompressions. After the first 24 hours you can reduce the pressure head about 5 c.m. daily and when within 12 to 15 c.m. of the bladder level the apparatus may be removed and continuous catheter drainage employed without danger. Force fluids in all cases (I have seen as high as 10,000 c.c. given daily). Intravenously, subcutaneously and by proctoclysis, with careful observation of cardio-vascular system and digitalis if necessary to prevent a breakdown. This should be done especially when the blood urea is very high (1 gm. or over per liter). If there is no other thought derived from this entire paper, I want this one remembered, P.S.T. remaining constant for several examinations and a corresponding blood urea so as to get maximum kidney efficiency before attempting prostatectomy.

Before going into the operation, I will mention in brief anesthesia, nitrous oxid and oxygen, spinal, local anesthesia and ether (generally in cardiac cases). Of course the form of anesthesia depends on the patient.

In doing a supra-pubic prostatectomy, I will not attempt to go into the different technics. The operation may be done in one stage or in two stages. The enucleation itself is very simple in the majority of cases, however some are very difficult. I will say this, in proper selected cases all methods are good.

Before the patient leaves the operating room, one should be sure his condition is satisfactory. Bleeding should have been stopped, pulse in good condition and no pronounced shock present. In post-operative shock we all know the symptoms and treatment. I have found that the physico-chemical principals involving gum-glucose intravaneously are fundamentally as follows: Glucose being a crystalloid like salt, it absorbs water through a semipermeable membrane. It is known that in shock and following hemorrhage there was an increase in the dextrose content of the blood, which has been explained as an effort on the part

of the organs to combat the existing pathological conditions. Therefore the incorporation of the sugar substance with the acacia. The gum being a colloidal substance, in 6 per cent solution it represents a viscosity equal to that of blood and the osmotic pressure of the blood colloids. Therefore the solution cannot leave the circulatory system, and what is more, will hold in the circulation the fluid that the crystalloidal glucose has attracted by osmosis. In other words, a crystalloid when introduced into the blood stream, passes rapidly into the cell tissue, and being non-oxioizable, rapidly reverses the process, with subsequent water logging of tissues. Gum glucose will elevate the blood pressure and maintain it for a minimum period of three hours at the initial level, with a slight subsequent fall. A routine submammary infusion of 1000 c.c. salt solution is given in all cases after returning from operating room. The pack is removed in about 24 to 48 hours when danger of hemorrhage is over and the case is handled by usual methods following these operations. In about 7 days the suprapubic tube is removed following these operations. In the majority of cases this can be removed at the end of second week and the suprapubic wound allowed to heal. I use inlying catheters after removing all suprapubic drainage so as to allow suprapubic wound to heal and also instill about 2 c.c. of 1 percent solution of mercurochrome in bladder daily.

CONCLUSIONS.

1. A careful pre-operative treatment will reclude mortality in suprapubic prostectomy.

2. Before operating on the patient, the surgeon should see that the P. S. T. remains constant for several examinations, also corresponding blood urea, so as to get maximum kidney efficiency.

3. In proper selected cases all methods are good.

## COMPLICATIONS FOLLOWING PROSTATECTOMY*

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AND
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Prostatectomy is always a precarious undertaking to most of us. The elderly male, with a general undermining of his physical status, apart from the serious urinary handicap of complete obstruction at the bladder outlet, demands the acme of attention following operation. Because of the fact that general surgeons doing prostatectomy far outnumber the urological surgeons in this field, particularly in the smaller communities, and because it remains an established fact that among those called upon to do general surgery, their mortality statistics are greater than those of the urologist, it is considered timely to direct your attention to some of the many complications following prostatectomy, how to avoid them, and how to cope with certain situations once they are evident.

It is taken for granted that, prior to operation, the patient was given the advantage of every pre-operative study known and practiced by modern clinicians and laboratory workers.

Further, it is understood that a preliminary, first-stage cystotomy for renal decompression and vesical drainage was done and that prostatectomy was not planned until the renal output was sufficiently improved and stabilized (as measured by phthalein) and that the toxic retention products of the blood (as measured by blood chemical study) had been reduced to as near normal figures as practicable.

Before proceeding with an enumeration of the complications that try us most, we must repeat here an axiom, known to most of you, but which ever so frequently, is put to us in the form of a query by some

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confrere. As there still must be a few who are hazy on the time that should elapse before the first and second stage operations, we again postulate that such period is variable. In one case the interval of wait between the two operations may be two weeks; in another case—an extremely bad risk—the wait may be a year. Between these two extremes, the majority of cases will find their respective places. Obviously, every surgeon has his pet cases who never comes to a prostatic removal but go along merrily, for years, perfectly contented with life and a Pezzer catheter. This is particularly the practice in advanced carcinoma of the gland where anything radical would be considered homicide.

HEMORRHAGE.

Every effort should be made to assure complete control of hemorrhage before the patient leaves the operating room. This is usually accomplished by the use of: (a) bags or, (b) packs. Our plan has been to use both agencies in practically every case. So often it will be noticed that even when the largest size of bag is used, at maximum distention, portions of the capsule edges are not compressed, and oozing is noted. By surrounding the base of the bag by one or more thin, gauze packs, firmly pressed in place, more efficient control of hemorrhage is experienced. Both bag and packs are allowed to remain in for forty-eight hours. Within twelve hours the tension on the bag is released. After twenty-four hours the water is liberated from bag. Thirty-six hours from time of operation portions of the packs are pulled out and cut away. On the morning of the second post-operative day the bag is usually removed, portions of the packs remaining. By the fourth day, all packs are out. This may seem unnecessary precaution but because it has produced no ill effects in our cases, we prefer to do it this way. From the time the bag is removed, solutions of acriflavine are injected into the bladder both through suprapubic opening and via urethra in order to keep down bladder infection. The removal of bags and packs as well as urethral injections are accompanied by pain and it is most comforting to the patient to receive a hypodermic injection of morphine and scopolamine an hour before such manipulations are contemplated. It is unquestionable true that the whole blood transfusion, which each of our patients receive immediately following prostatectomy, serves as a hemostatic as well as a barrier against surgical shock. I am sure that since adopting transfusions routinely the post-operative bleeding has been reduced to a negligible minimum.

In our experience, secondary hemorrhage, following prostatectomy, occurs far less frequently when the bag in the prostatic cavity is not removed too soon. With the plan we have adopted, we have observed but one secondary bleeding. This occurred within twenty-four hours following removal of the bag and unquestionably occurred from the re-opening of some larger vein of the prostatic plexus. This case was immediately taken to the operating room, given ethylene and oxygen, a sound with a notched tip passed through the urethra, the bag rethreaded upon the sound and reintroduced as originally. After distending the bag with water and making traction over a wire frame, the hemorrhage ceased promptly and did not return. We rather favor this plan instead of leaving an urethral catheter in the urethra to which a heavy silk thread guide is left protruding out of the suprapublic wound. Although many prefer this latter precaution, we feel that the catheter itself serves as sufficient irritant to the raw prostatic bed to court trouble.

It should be unnecessary to point out here that the bleeding time as well as the coagulation time of the patient's blood is ascertained in the pre-operative study so that, where one encounters a subject with hemophiliac-like tendencies, the proper measures can be undertaken to remedy this fault, as far as practicable possibly by calcium, coagulin, etc.

SHOCK.

A sudden drop in blood presure following the ordeal of prostatic removal, when accompanied by cyanosis, symptoms of air hunger and marked slowing of the pulse rate, should alarm anyone. Particularly must one be on guard when dealing with such signs in the aged patient with hardly the reserve strength met with in youth or early adult life.

Whole blood transfusions, given preferably by the direct method, of from 250 cc. to 500 cc., said procedure being instituted before the patient leaves the operating table, is, in our opinion, the one surest safe-guard against post-operative shock. In most instances it will not be found necessary to repeat the transfusion but for several days following operations we daily have a donor (whose blood has been accurately typed and matched against the patient) readily available should an emergency arise. Reactions have been negligible in our service and we can attribute this only to the care exercised in properly matching as well as typing our bloods. Simply typing will not do; the bloods must match.

We are unalterably opposed to having our patient suffer pain after prostatectomy. Pantopon, codein or morphine, is used just as often as found necessary during the first few, trying days following operation. Caffein-sodio-benzoate hypodermatically in doses of 7½ grains are part of our routine orders.

Heat to body, preferably by means of well-protected electric pads, is certainly gratefully received by the patient. Elevation of the foot of the bed in marked shock is to be recommended.

Where whole blood is not available, saline solution in 500 cc. quantities is given. This is given immediately following operation. Some surgeons prefer glucose-insulin. Some will use only hypodermoclysis; others desire their patients to get such fluids by vein. We find it seldom necessary to resort to hypodermoclysis in our work as patients operated under ethylene-oxygen react so promptly that within an hour, or at the outset two hours, after being returned to bed, they can be given water in increasing quantities by mouth. Where nausea intervenes, hypodermoclysis is substituted until the gastric crisis has passed.

EPIDIDYMITIS.

It seems universally conceded, we think, that bilateral vasectomy should be done routinely at the time the first stage (cystotomy) operation is carried out. Since adopting vasectomy, we have had no epididymitis following prostatectomy. Within a week after the prostate has been removed, an indwelling catheter placed in the urethra will materially hasten the healing of the suprapubic fistula. Still we know that at this stage of the management of the case, with the patient's resistance under par, and with the bladder badly infected, an indwelling catheter often does produce an epididymitis. All fear being dispelled of such a serious complication by vasectomy, it merits your approval.

Just a word as regards the technic to adopt. Do not attempt any time-saving device such as attempting to ligate the vas by passing a needle through the skin of the scrotum. This method fails at times. Do an open operation at the upper anterior aspect of the scrotum on each side, dissect the vas free of all contiguous structures, free a section about an inch in length, apply two ligatures above and below this section, and cut away a portion of the vas. Then you know you will not be bothered later.

FEVER AND INFECTION.

Because of the fact that so many individuals suffering from prostatism have, among other complications, a chronic pyelonephritis, fever will be observed in many instances, usually beginning on the third or fourth post-operative day. At times it occurs simultaneously with the removal of the last pack fragments from the prostatic bed. Naturally in such instances, just re-

ferred to, the fever is often due to the local traumatism, as may be accompanied with a chill. But whether the temperature be due to renal or vesical cause, our mode of procedure is the same. As cystoscopy and renal lavage is out of the question here, we resort to intravenous and oral therapy. Where the patient can take and retain medication by mouth, we give, for weeks before the operation as well as for weeks after, two tablets of mallophene or pyridium t. i. d. This prophylactic procedure will ward off many a flare of latent infection in the upper urinary tract. Intravenous injections of urotropin in 30 grain doses, given twice daily in obstinate cases, often gives most pleasing results. Urotropin has never given me any results whatever except when used intravenously, but when so employed, especially in post-operative management, its action is often most gratifying.

Hydrotherapy and the proverbial ice caps are acceptable provided their use is not continuous, so as to shock rather than relieve the aged patient. Acetylsalicylic acid is welcome here as an adjuvant of no mean proportion.

In bladder or urethral sepsis, causing the pyrexia, local use of efficient antiseptic solutions, employed at frequent intervals as injections or irrigations, will take care of most reactions in this vicinity.

A rise in temperature on the fifth to seventh post-operative day may be due to infection of: (a) wound; (b) prevesical space; (c) perirectal area. Surface discoloration or an appearance of swelling, tenderness to touch, should make one investigate carefully for pus.

FISTULA.

A stricture at the prostato-membranous juncture may retard closing of the suprapubic fistula. Tags left at the margins of the capsule, shelf formation above the prostatic bed or an hour-glass deformity following enucleation,—all furnish problems in perpetuating suprapubic fistula healing. Such complication will occur far less frequently where the indwelling, urethral catheter is employed at the proper time.

INCONTINENCE.

It is generally understood that in doing prostatectomy, the compressor urethrae muscle must be preserved. This is not always easy of observance when we encounter the contracted, fibrous type of gland that (like cancer) must be literally chewed out, piece by piece. Therefore, in difficult enucleations where the operator's finger passes beyond the confines of the capsule, injury to the compressor urethrae may be inevitable, with resultant dribbling. It is interesting to observe how many of these dribblers, sooner or later, stop dribbling. In fact, I do not remember a single case which did not, in time, gain at least fair bladder control.

IMPOTENCE.

We know by a study of many follow-up case records, that sexual vigor is little impaired by a simple removal of the adenomatous prostatic lobes. Impotence results mainly from a removal or serious damage to the ejaculatory ducts. This occurs less likely from suprapubic operation, but, in skilled hands, the ducts of the veru can just as well be preserved in the perineal approach.

RECURRENCE.

The return of symptoms of prostatism following a so-called complete prostatectomy are explained under three heads, namely: (a) the false recurrence where overlooked nodules attached to the surgical capsule revive, enlarge, and fall over the internal sphincter; (b) true recurrence where compressed adenomatous glands within the capsule, so flattened as to escape detection at operation, revive and enlarge to proportions the degree of which can be measured only by the original lateral lobes removed; and, (c) carcinomatous recurrence in the site of what was originally a benign adenomatous growth.

Ordinarily after prostatectomy there is no need to disturb the bowels for at least thirty-six hours; or, twelve hours after the prostatic bag has been removed. The inflamed rectal tissue after trauma, needs rest.

In most cases an aperient may be given on the third or fourth post-operative day. We have been using for the purpose the time honored hospital cocktail of cascara and milk of magnesia, of each, fluid ounces one-half.

FLATULENCE.

In about twenty-five percent of cases a certain amount of flatulence is expected—the amount depends entirely on the dosages of morphia given and manipulation of rectal mucosa at time of operation. Certain of the cases will exceed this and become markedly distended. Here, we must direct treatment to stimulate the peristaltic activity which has been temporarily paralyzed; with an abdominal wound, it is difficult for the patient to bring into use the muscles of the abdominal wall which are a normal accessory in the expulsion of gas.

First a small catheter should be passed an inch or more through the anus so that any gas collected there may escape. Turpentine stupes and very gently given purgative enemas may be administered. Flushes are to be guarded against on account of the prostatic bed which is not yet completely healed.

Recently, we have gotten quite good results with peristaltin tablets, one every four hours. Failing these measures, ½ c.c. of surgical pituitary extract may be given hypodermically and repeated, at two hour intervals, but no more than 2 c.c. should be given. If, in spite of all these measures, the distention does not decrease, a condition of ileus may exist and require treatment accordingly.

HICCOUGH.

Hiccough is a very troublesome symptom, and at times exasperates the doctor as well as completely tires out a patient. An effort should be made to determine whether it arises from a central or a peripheral cause. The latter is the usual rule—a local irritation to the diaphragm from a distended stomach or small intestine. It is most frequently met with where undue trauma was practiced; where insufficient time occurred between the first and second stage procedures; or where the patient was on the operating table longer than anticipated. The treatment is often unsatisfactory. We believe these cases should not be temporized with. The giving of peppermint water, tincture opium or sodium bicarbonate, we have found to be of little help. The duodenal tube left in situ for feeding patient and draining the stomach as it tends to fill with secretion, will usually relieve the patient. However, some cases require morphine and scopolamine in order to get sufficient rest. The administration of morphine is not universally recommended due to delayed effects of nausea and vomiting. Where the hiccough is central we must search for an acidosis or alkalosis and combat it accordingly. Blood chemistry and carbon dioxide combining power studies make the diagnosis simple where alkalosis is present. Saline by vein is a specific. Where acidosis is found, glucose by vein will startle one by the quck response often observed.

VOMITING.

Nothing is quite so troublesome as nausea and vomiting and it always occurs to a greater or lesser degree. Its seriousness varies greatly according to cause and persistence.

Vomiting due to anaesthetic occurs during the recovering from the anesthetic and usually ceases in eight of ten hours. The treatment is to rest the stomach and diminish reflex excitability. We have found it best to administer nothing by mouth during this stage. Saline by vein will favor elimination of the anesthetic. If this symptom persists for over twelve hours, the fixing-in of a duodenal tube and the feeding of one-half a fluid ounce of glucose every one hour is desirable.

Peritonitis and paralytic ileus will give rise to persistence of nausea and vomiting, but these are seldom encountered. There is one condition which arises when least expected and that is, acute dilatation of the stomach. It may be very serious when it

does occur. As you know, the stomach fills and retains enormous quantities of fluid which may be dark brown in color from altered blood. The treatment is to pass a duodenal tube and leave it in, washing the stomach at intervals of one to two hours with sodium bicarbonate. Small quantities of food should be given after washings but never more than one-half fluid ounce at each feeding. It is our earnest opinion that the duodenal tube saves the patient from as much distress post-operatively as that derived from pain relieving therapy.

Pulmonary complications are not at all uncommon among the older and more debilitated patients. They give rise to great anxiety in their after treatment and deserve considerably more attention than is usually given in text books.

ANESTHETIC.

First there is the direct effect upon the air passages, of the anesthetic, which may produce a bronchitis or a broncho-pneumonia. Where infected material is aspirated into the lung the case develops pneumonia quite frequently.

BRONCHITIS.

Bronchitis, to a degree, is quite common and begins within one day after the operation. A cough, with a fever of from 100 degrees to 101 degrees, with moist rales over the chest, constitutes the chief clinical picture.

A broncho-pneumonia is the result if the bronchitis does not clear within forty-eight hours. Therefore, all cases should be turned repeatedly after the first eight hours following the operative procedure, and on the third day, allowed to use a back rest. This aims to prevent any static condition in the lungs.

PLEURISY.

Pleurisy is a late complication arising usually a week or more after operation. In some cases it develops acutely and gives rise to a suspicion of a small pulmonary embolism. We are all familiar with the physical signs and symptoms of pleurisy and the usual stereotyped treatment is given.

EMPYEMA.

Empyema and massive collapse of the lung are relatively rare. However, empyema may develop in such an insidious manner that it might be overlooked. A roentgenogram of the chest, with a leukocyte count, give the correct diagnosis.

PULMONARY EMBOLISM.

Lobar pneumonia rarely develops post-operatively in these cases. Much has been written on this subject. We are practically helpless as to treatment. In prostatectomy there are a great many small vessels within the capsule, not ligated, but sealed with clot. The small clots may extend to larger veins, and in the presence of a badly infected prostatic bed, a thrombus is dislodged and goes to the lungs where it lodges in one of the branches of the pulmonary artery. If too large an area is involved, death ensues quite quickly, or may be delayed. The administration of oxygen is our only known means of helping patients so affected. A careful examination of the chest will always reveal the condition.

CIRCULATORY EMBARRASSMENT.

As in respiratory troubles, so in cardio-vascular complications, a consultation with an expert internist is demanded. High blood pressure is now conceded to be no deterrent to prostatectomy. We further know that to attempt to lower tension markedly may actually lead to appreciable reduction in renal function. Low blood pressure, on the other hand, presents a serious problem.

Fibrillation and acute cardiac dilatation should be ever anticipated. While indiscriminate digitalization is to be discouraged, quinidine, digitalis and strophanthin, when used intelligently, may be of the greatest service here. While forced fluid intake is ever encouraged in these cases, both before and following operation, obviously in the presence of edema due to car-

diac embarrassment, the administration of water must be supervised judiciously.

Time does not permit our taking up many of the less frequent, but equally important, complications following prostatectomy. Septicemia and cerebral embolism are most distressing when encountered and usually prove fatal. Only the more commonly encountered complications could be taken up in this communication. If these experiences are found of value to some of our younger surgeons, our efforts will have been amply rewarded.

DISCUSSION OF PAPERS OF DRS. DAVIS, MILAM, AND WALTHER.

Dr. Barron Johns (Shreveport): These papers have been read in such a manner as to almost eliminate the need of any discussion. Personally, I can see no reason for the debate which has been raging in medical literature for the past ten or fifteen years betwen the advocates of the two methods of removing the prostate gland. Statistics from skillful operators in clinics have proved beyond the question of doubt, that the results are practically the same. These results have been obtained by men who are experienced in both lines of procedure. I believe it is largely a question of individual training and experience in the method which the operator chooses to take.

There are three important causes of death in prostatectomy, from the operative standpoint. They are, first: renal insufficiency; second; shock, including hemorrhage, and third; infection. Neither of these three factors are eliminated regardless of the method chosen to remove the gland. I believe that given a series of prostates to be removed and operators equally skilled, and with the same type of anesthesia the end results will be the same. I also, believe for the general surgeon, or one who does an occasional prostatectomy, that the suprapubic route is the method of choice, in that it offers fewer technical difficulties, and that the average operating room is not equipped for perineal prostatectomy. One of the greatest essentials for success in using the perineal route, is a well trained operating force, and an experienced intelligent personnel to carry out the details of post-operative care.

In my experience there are certain types of cases in which the perineal method would be contra-indicated. This group comprising about twenty per cent, are cases who do not tolerate urethral drainage, or intermittent catheterization well. These are patients with cystitis or bladder stones, with a co-existing pyelo-nephritis, also, cases where the urethra is irritable and an indwelling catheter has a tendency to produce pain or bleeding. The procedure I have adopted in these patients is, bilateral ligation of the vas, followed by a two stage suprapubic prostatectomy.

Beyond the shadow of a doubt, the great decrease in mortality in prostatectomy has not been due to any method in removing the gland, but principally to a newer knowledge of how to restore renal and normal body function, before any operative procedure is attempted, and to a closer cooperation between the internist and the urologist.

Dr. J. H. Turner (Houston, Texas): I think that perineal prostatectomy is the operation of choice. It has been in our hospital, especially in patients beyond the sexual age. It is particularly advantageous in those patients that have the fibrous type of gland. These would be most difficult to enucleate suprapubically. We do both types of operations, but we are most enthusiastic about the perineal prostatectomy.

I think that the shock from a perineal prostatectomy is less than we find in the first stage of a suprapubic prostatectomy.

As the doctor has said and has stressed, under some circumstances, perineal prostatectomy is rather difficult to do, particularly when we have inexperienced assistants, and is a very easy surgical procedure if we have fairly well trained assistants, but of course, a suprapubic can be done with only a nurse to assist. In most hospitals now days however, we have sufficient interns to make intelligent assistants.

Perineal prostatectomy is particularly advantageous in those patients with contracted bladders. We find in doing the first stage suprapubic drainage, the bladder is contracted and is very difficult to pull into the field in preparation for the second stage. It is in these patients that the perineal operation works out very well.

I noticed that several of the operators, in fact, I think most of them remove their packs in forty-eight hours. Our experience has been that we have a very large percentage of hemorrhages is so doing. If we are going to pack, we prefer the gauze packed to the various types of bags. Removal of the gauze as early as forty-eight hours may be permissible. The objection to bags that we have found is that they cause a large percentage of incontinence.

The point of the moval of the bowels, I believe, should be stressed. We feel that the bowels should act before the packs are removed and then that allows a period of rest for several days. We have found a small catheter with olive oil and glycerine to be preferable to large doses of pituitary ex-

tract, which is quite a strain on the cardiovascular system of old people.

I was glad to hear Dr. Walther say that the intravenous urotropin was efficacious in his hands as a urinary antiseptic. We like to give urotropin with glucose solution. It might be a shot-gun prescription, but it works a little better than urotropin alone, we think.

Going back to the perineal prostatectomy, I think that another thing to be considered about prostatectomy is the economic saving to the patient, the time element in the hospital. I believe that the patient can be gotten out of the hospital in much less time from a perineal prostatectomy than from a suprapubic. With the natural surgical drainage that you have from perineal prostatectomy, there is no residual urine left in the bladder, and is less apt to have sloughs in the wound.

Dr. Davis spoke of the alkaline infection. There is nothing in the world so distressing as an extensive alkaline infection in the large suprapubic wound. Perineally, this can be coped with much easier than suprapubically. I have seen many cases of this, in fact too many, in charity hospitals, and it scatters like wild-fire in the wards if not carefully guarded. This was one of the things that caused us to do more perineal prostatectomies, particularly on charity patients as they certainly do demand less attention from both the house staff and nursing staff than do suprapubic cases.

Dr. John Pratt (New Orleans): It seems to me that this subject has been pretty thoroughly covered by Dr. Davis and Dr. Milam from pretty much every standpoint. There is only one thing that I would like to add, and that is the determination between the period of the first stage of suprapubic prostratectomy and the actual prostectomy. This point, I thing, is one that sometimes taxes us—when to go in and do the final stage of the operation.

Dr. Walther says it might vary from two weeks to a year or more, and we have got to base our determination upon certain facts, principally, I would say, upon how the patient stacks up to you. I mean a man can wake up in his suprapubic cystotomy and you can tell whether he is doing bad or well. I have seen old men who have gotten very weak, just going down gradually. I have seen them just fade away, not knowing what they are fading from, following the first stage. If we step on those kind and do the second stage, they are going out the back door. We have got to know their kidney function and their blood chemistry. These old men are suffering from chronic sepsis. Sometimes we can help them out by cystoscoping them. Sometimes we can only make them worse by doing it, but it is a very fine point, I think, in the minds of all of the urologists to know when to take that prostate out.

There is another question that came to my mind and that is about hemostasis in prostatectomy or in the use of the bags. When I was with Dr. Hume, we started with the use of Pilcher bags quite early in the game. We put this in and left it distended and in place for 12 to 24 hours with the urethreal distention on the water distention on. Following this, we noticed we had some cases with incontinency of the urine. We began to diminish our time and found that after four hours' time, we could release the urethral distention and leave the bag distention on. Then, waiting for a period of two or three hours, and no bleeding occurring, we could release the water distention of the bag and let the bag collapse, leaving a side tube for approximately 48 hours before we removed it. Following this line of procedure, I think for a period of eight years, we used the bag. When I was with him, we found that there were only two cases of postoperative hemorrhage. I don't know how many cases of prostatectomy we did in that time.

Dr. I. B. Rougon (Shreveport): I want to correct an impression of Dr. Davis. I meant the average drainage was one week and not routinely one week. In regard to complications following suprapubic prostatectomy. I think the discussion of complications is of much more importance than the mere mechanism of the operation. After all it is the complications following surgical proceedures that give us doctors gray hairs and take our patients away from us. We must remember that these patients come to us for relief in ages usually past 60, their kidneys are in bad shape, and for that reason probably uremia takes the first place amongst the major complication following prostatectomy. The two-stage operation has reduced that complication to practically nil. You do not do the second stage of the operation until your blood chemistry shows it is safe to proceed. We pay more attention to the blood chemistry than to the P. S. P. as we feel that the P. S. P. does not give a reliable strain index. It doesn't give you just exactly how much strain the kidneys can be put to. We see a fair proportion of patients with good pre-operative P. S. P. die from uremia following operation. Such is not the case when a careful blood chemistry determination is made.

Shock and hemorrhage: I think the two-stage operation has reduced the shock part of this operation. In other words you haven't the patient on the table so long. The first step has already passed and gone. He has had plenty of time to get his appetite back and you do a quick operation

in the second stage, and therefore there is no shock. As far as hemorrhage is concerned, we have never had trouble with hemorrhage. We use gauze packs routinely, and we think we get along wonderfully.

Now pneumonia: Do your operation under local or spinal anesthesia and get your patient out of bed as quickly as possible and you won't have any pneumonias.

Epididymitis: We do not do vasectomy routimely because the average patient objects to it, but we strongly advise it especially when they are between 45 and 60 years of age. Epididymitis as a complication is rare when the patients are past 70.

Hiccoughs: One of the very troublesome complications. Dr. Walthers mentioned hiccoughs and I think they are due to two causes: renal distress and pus. Possibly pus is the main reason for it. Pus may be in the prostatic capsule, it may be under the abdominal facia or rectal sheath, and if you will look for it you will usually find it. Drain the pus pockets and soak these patients with normal salt solution and that will usually cure the hiccoughs.

I think the choice of operation, whether it be perineal or suprapubic is purely an academic one —it is up to the individual surgeon as to which type of operation he can do better. Dr. Jones can probably do the suprapubic operation best and Dr. Smith can probably do the perineal operation best, and vice versa.

The merits or demerits of any operation are based on four factors: First, its mortality. I believe that the death rate following suprapubic prostatectomy in the two-stage method, in the average hand, is less than in the perineal prostatectomy.

Second, its complications: The complications following perineal prostatectomy are more serious than those following the suprapubic route. Incontinence, Dr. Davis says, seldom follows perineal prostatectomy, and does not occur more often than in the suprapubic route. That may be so, but I don't think I have ever seen permanent incontinence following the suprapubic operation, and have seen many following the perineal route. Another complication is stricture of the posterior urethra. Of course, stricture in a young adult is not of any serious consequence. Stricture in men past 60 is a very serious complication. Some 20 years ago while I was at Hopkins working in the clinic, 25 per cent of our time was spent in treating strictures following perineal prostatectomy.

Third, the stay in the hospital. I would like to ask Dr. Davis what is the average stay of his perineal patients—I mean including the preliminary drainage. We make it a routine in all of our cases to do preliminary suprapubic drainage. In a series of 136 cases in the last five years the average stay in the hospital including the preliminary drainage was 21 days. Our average preliminary drainage has been about one week.

Fourth, the end results: The end results of either operation are on a par, one being as good as the other. In conclusion I believe I am safe to say, in the hands of the average surgeon the suprapubic operation in two stages is by far the safer.

Dr. Milam (closing): I was like Dr. McCoin. I came from a perineal school. Someone has asked when, after the first stage has been done, is the time to take your prostate out. Surgeons can't tell that themselves. It depends upon the patient. You are waiting for the blood urea and phthalein to get up to its highest point or where you think is its maximum efficiency. That is found in this way: Let them run for a period of time and you chart them—I had a chart, but I didn't bring it over here—you chart them in a line and you can see when that phthalein and corresponding blood urea has reached its highest point.

One other thing, or the thing that in prostatectomy regardless of which way it is done, comes to every surgeon or every man—whether urologists or not—in the preoperation care. This is the proper drainage regardless of how it is done. Personally, I prefer catheter drainage.

My paper wasn't a technical paper at all. It was a practical paper to stress the preoperative care which, I think, brings the mortality down to within that of the perineal prostatectomy.

Dr. A. Mattes (New Orleans): The prime object of the papers prepared this afternoon relative to prostatic disturbances was the proper drainage of the urine from the bladder, and all procedures noted were for the correction of urinary stasis. We have heard a great deal about the various methods for removal of the prostate. Again, we have heard something about the complications from both the upper and lower routes. However, we must carry away with us the fact that throughout the country and the entire world the punch operation is also used to relieve stasis and drain the bladder, attended with practically no risk, and a much lessened mortality. It is as serviceable as the rather attenuative two-stage suprapubic or the perineal method. The punch operation has a place in prostatic disease. It is here to stay. It has served us well ever since it

was introduced by Young, and irrespective of the type of punch you use, no matter what the name, there are indications for its use and in some cases it will tide the patient over for years and do away with the necessity for removal of the prostate glands.

Dr. F. J. Chalaron (New Orleans): I hesitate to rise and say a few words. I listened with much pleasure to the papers and proceeding discussions and I must agree with the evident consensus of opinion that in the hands of the untrained the suprapubic method is the better.

As to the dangers, I agree with Dr. Pratt. The only cases in which I have ever had dribbling are those cases in which I have used the Pilcher bag and left it in, I believe, too long. Whenever we proceed arbitrarily to set down hard and fast rules, we are preparing for a fall. We cannot meet all conditions by one line of operative procedure. It lies entirely with the surgeon and with his estimation of the work he is to do on the particular patient. If you attempt anything else, you will have trouble. Whether you are going to do a one stage on all your patients, or two stages, whether you are going up above or below, all this has to be fitted to the particular case you are dealing with.

The punch operation has its place most assuredly. I never more will attempt to remove a fibrous prostate by a suprapubic prostatectomy. I have not the physical strength nor do I have the endurance necessary, nor do I believe it is for the good of the patient. Anybody who can remove a hard, fibrous prostate by enucleation is a good one. I have seen in such cases good surgeons remove much more than the prostate. I don't think, in a stout individual, that the most expert operator can always remove all the prostate through a perineal prostatectomy.

Dr. H. L. Crow (Shreveport): I think the general practitioner in a way responsible for the rate of mortality in prostatectomy. It takes a good deal of skill, and lots of old practitioners used to tear the prostates up. In the cases we get at Charity Hospital, they are in such conditions when they come in that they are practically dead to begin with and anything you do, they are going to die. Lots of times when they come into the hospital, they have a leaky bladder. In a case like that you have very little chance to save that man.

We do not take the chances on operating that we used to. We have had cases come in there that could not stand suprapubic or anything else. They get a little drainage and die anyway in a few days. A large part of the cases that come into the hospital are beyond the operative stage, and in those cases the mortality is too great to take the chance. We are using a good deal more precaution about putting people on the table and operating unless absolutely necessary. I find that when you have a leaky bladder, it is practically impossible to save that man. Another point is that those old men on their backs are going to die if you let them stay there long. You want to sit them up, give their hearts a chance, and give them plenty of fluids.

Dr. B. M. McKoin (Monroe): In the beginning, I think we should feel highly honored to have men like Dr. Davis come and give us his time. I hail from a perineal prostatectomy school and when I first came back to begin my work as an urologist that was my method of choice, but the choice of the operation depends upon the operator altogether and his assistants and the conditions surrounding the operation.

I have in mind a recent—but a few months ago—case in which one of my colleagues was doing a perineal prostatectomy, in which the assistant was so eager to see what was going on that the sound was pushed through into the rectum. Of course, this friend had to change his method of operating and go the suprapubic route. I find that that was my great handicap in trying to do perineal prostatectomy. I will say that those I have done stayed in the hospital a shorter time and their function has been as good or better, I believe better, than the suprapubic route.

As to whether a man does the two-stage or one-stage operation depends entirely upon the patient. Every patient has to be handled on his own merits. It is foolish, where there is not so much trouble with high blood urea and everything else is within normal limit, to submit a man to a two-stage operation. Frequently I have done the one-stage operation and got away with just as much success as in a two-stage operation and the patients are still living.

We cannot lay too much stress on preoperative care. That is what some of the surgeons of today are not doing. I know, in the last two or three months, of cases where the surgeons never made a blood urea test. There is no excuse for any such surgery to go on in any country if men will only come to these meetings and hear such papers as we have heard this afternoon, but it is done and the thing that we want to do is to try to bring home to us some of the things that we can do to curb the mortality rate which we are getting.

There is one point that I have not heard anybody bring out. Bad teeth and other septic foci should be thoroughly removed before you operate on a patient because unless you do do that you

are liable to cause the patient to go down with pneumonia or some trouble that will take your patient out.

Dr. Davis (closing): I wish to say first that I appreciate the kindly way in which I have been let off by all.

Dr. Milam mentioned the use of the irrigating decompressing apparatus. I have devised a very simple form of this apparatus, using the glassware and rubber tubing to be found in any hospital. I have a picture of this on a lantern slide which I will be glad to show to anyone interested.

Dr. Johns spoke of the causes of death. We are discussing slight differences between the two operations both of which are good, and we have to concentrate our attention on these slight differences. It does seem to me that with the perineal prostatectomy we are in a better position to prevent hemorrhage. When one makes traction on the perineal bag, one is pulling in a straight line. Traction, I believe, is unnecessary in practically every case. With the perineal bag, we now put on no traction of any kind unless some bleeding makes it a necessity, and indeed, the operator simply places it in the bladder ready to be pulled upon should bleeding occur.

Of course, it is true, as Dr. Turner has pointed out, that it is better to have trained assistants. However, I have operated in a small country town with two assistants who had never seen a perineal prostatectomy and got along all right. Special tables are not necessary. It is necessary, however, to have some arrangement by which the leg rests, which usually stand perpendicular to the table, can be bent or inclined in relation to the end of the table to allow the patients' legs to be pushed back, and it is necessary to have reliable shoulder rests to keep the patient from sliding out of position during the operation.

Bags are perhaps better left in a little longer, as Dr. Turner has called attention to, but we are able to remove rubber bags usually within 24 hours without any trouble.

Dr. Rougon felt that the complications were more serious following perineal prostatectomy. I think that perhaps might be questioned a little. Stricture is not a formidable complication. At the present time we do not pass any sound on our cases, unless it is necessary—certainly less than 5 per cent. I have seen quite a number of cases of prostatectomy operated on by general surgeons who, by failure to give the proper postoperative care, have allowed the patient to develop unnecessary complications, again bringing up the point that knowledge and attention are necessary in the postoperative period.

As to the stay in the hospital, I would make two observations about that. I do not see how any person can use a one-week preparatory period. Dr. Walther has spoken truly about the period of preparation. It may extend from two weeks to a year or more. That is true of our patients. The post-operative time will vary also. We do not like the patients to go home until their fistulas are entirely closed. I cannot give the exact figures on the stay in the hospital—it would be somewhere around a month.

In regard to the punch operation, I will second what Dr. Mattes has said. I am enthusiastic about it, so much so that I have just invented a new punch instrument. One has to select the cases. If the obstructing mass is too large to enter the notch, you cannot use a punch any more than you can put a gallon into a quart bottle.

In regard to the fibrous prostates that Dr. Chalaron mentioned, they can often be taken care of by the punch. If not, they can, however, be taken care of more easily by perineal operation. Then you can remove by any means necessary, by finger, by scissors, by knife, or by the punch instrument any quantity of prostatic tissue desired.

I can second what Dr. McKoin says about preoperative care.

Dr. H. W. E. Walther (closing): I think I voice the opinion of the section in saying we are appreciative of Dr. Davis' coming all the way from Baltimore to give us this excellent dissertation on perineal prostatectomy.

Perineal prostatectomy has been comparatively little employed in the South until recently, due chiefly to the fact that the technic has not been taught in our schools despite the fact that most of the men holding chairs of urology in the South are Hopkins men. I notice here a sort of confessional among certain of Dr. Davis' pupils of backsliding, and I would like to say in defense of this section of the country that, as some gentleman brought out, the lack of equipment has something to do with it. These men go off and get training, but they come back into institutions where there is no equipment. Our hospitals lack equipment. Dr. Davis may tell us that you can train assistants easily, but you do have to have equipment. You do not have to have a special table to do the work, but it's good to have it, and we haven't them in all of our hospitals down here. Our teachers have never taught us perineal, and it is not being taught in any medical schools that I know of in the far south. That explains why there has been so little work done perineally.

In regard to Dr. Milam's paper I think the suprapubic operation is unquestionably done with

more ease than the perineal operation. I believe the suprapubic results are equally as good. I think that recurrence of prostatism will occur from either operation about equally. One of the main portions of my paper, that I didn't have time to read, dealt with gastro-intestinal complications. I am sure that those complications have not had sufficient attention. We have all talked of hemorrhage and shock and that sort of thing, and we all realize, or should, that prostatectomy is never an emergency operation. It is absolutely necessary, in order to do this work successfully, that we other have an established mode of preoperative preparation or a definite idea of what we are going to do surgically, and then not to neglect the postoperative care.

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## INTERNAL DERANGEMENT OF THE KNEE JOINT, ESPECIALLY THE SEMILUNAR.*

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The knee joint, more than any other joint, is subject to injury because of its peculiar construction and situation. Sprains or rupture of the soft parts, and fractures into the joint with derangement of the articular surfaces produce painful, and in many instances disabling conditions; these unless careful'y and promptly repaired may result in permanent disability.

Injuries of the joint may be produced by sudden and direct trauma, such as blows directly upon the joint, or by indirect trauma, such as torsion of the bone above or below the joint or both. Hypertrophic arthritis and lues may become primary factors in the formation of loose and pedunculated bodies within the joint such as osteochondramatosis and osteochondritis desicans, and so lead to internal derangements.

Because of the increased interest in athletics, the general use of the automobi'e and the many mechanical devices used in factories, injuries to the knee joint have increased markedly in late years, and now conditions which were rarely seen formerly have become somewhat common.

Dislocation of a semilunar cartilage is the most frequent internal derangement of the knee, fractures into the joints are next, and then follows rupture of ligaments and loose and pedunculated bodies. Osteochondramatosis and osteochondritis desicans may be considered different types of the same condition, the first being characterized by a single or possibly a few loose bodies commonly termed "joint mouse" which wander from place to place in the joint and occasionally cause discomfort by becoming lodged between the articular surfaces and produce mechanical hindrance to motion, especially in extension. In such a case attacks of dull aching pains through and about the joint occur, and persist till the mass is dislodged by subsequent movement of the joint; examination of the joint will be negative unless the case is seen when the loose body is lodged between the articular surface, then pain and restricted motion will be present; this condition is more frequently seen in young individuals and a history of some trauma may be elicited, whereas osteochondritis desicans is found in those of middle or advanced age, and though symptoms are rather similar the discomfort is more frequent and prolonged, the patient complaining of constant dull pain about and through the knee which becomes intense and disabling at times. Examination of this type of joint reveals pain and limited motion with enlargement of the joint, and occasionally irregular masses may be palpated over the lateral aspects of the condyles; abnormal lateral mobility may be present, and marked crepitation will be felt on motion. Roentgen-ray examination should be made with the joint distended with air or oxygen, and will reveal a single or possible two or three almond-shaped bodies some where in the joint cavity with apparently normal articular surfaces in the first type; in the second type multiple attached and detached

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masses will be seen, and hypertrophic changes with bone proliferation will be noted; the articular surfaces will be eroded and the interarticular space diminshed.

Damage to the crucial ligaments is produced by direct and severe trauma, the blow being against the anterior or posterior portion of the leg just below the knee joint. With such injuries fracture of the tibial spine and capsular tears often occur; there is hypermobility of the tibia in an anterior or posterior direction in the extended position depending on which crucial ligament has been damaged. If the tibia can be displaced backwards the posterior ligament has been damaged, if anteriorly the anterior ligament has suffered; occasionally both ligaments are damaged. If the tibial spine has been fractured and displaced there may be a bony block limiting motion in extension; the capsule will be greatly distended with fluid, and aspiration will reveal hemorrhage into the joint. Roentgen-ray examination in such conditions will be negative unless there is a fracture of the tibial spine.

Fractures into the joint are disabling in proportion to the amount of distortion produced in the articulation. The more serious are, split fractures of the femur producing separation of the condyles; transverse fractures of one or both condyles in which one condyle is displaced laterally, anteriorly or posteriorly; oblique fracture of a condyle with posterior displacement; fracture of the tibial spine with lateral displacement; impacted fracture of the external table of the tibial head; oblique fracture of the external table of the tibial head with displacement downwards or externally; fracture of the patella. All joint fractures have one common complication, namely, distention of the capsule with fluid which is hemorrhagic. On examination the joint is found to be enlarged and tender; the patient complains of a general soreness throughout the articulation, and a point of exquisite tenderness will be found directly at the point of fracture; occasionally crepitation and even motion maybe felt especially in cases with complete fracture of a condyle. In complete fracture of the tibial head or femoral condyle lateral mobility of the joint will be increased. Oblique and impacted fractures of the tibial condyle may be complicated by displacement of the respective semilunar cartilage.

Dislocation of a semilunar cartilage may be produced by blows directly upon the lateral aspect of the knee, or by torsion of the femur when the knee is flexed and the tibia fixed, and vice versa. In normal motions of the knee the external semilunar is allowed greater freedom than the internal because the internal is more firmly attached to those structures in relation to it, for this reason dislocation of the internal occurs ten to twelve times more frequently than the external. The line of weight bearing through the knee being to the inner side of the tibial spine throws more strain upon the internal condyle of the tibia and so contributes to the more frequent dislocation of that cartilage. Though dislocation of the external cartilage does occur it is extreme'y rare and the symptoms are vague as compared to those presenting when the internal is at fault. Occasionally complete dislocation of a semilunar results from severe trauma but in by far the majority of cases only a part of the cartilage is displaced; the anterior portion is often displaced whereas the middle and posterior portions are seldom damaged and displacement is towards the center of the joint; the free edge or end of the torn section may become turned under and consequently produce greater displacement. The onset of symptoms is sudden, immediately following blows upon, or torsion of the bone above or below the joint while the knee is flexed; pain is often nauseating and the patient is unable to extend the knee, the displaced cartilage causing a mechanical hinderance to extension. A sense of soreness is felt through the knee and points of acute pain will be felt at the antero-lateral portion of the tibial head, the inner side of the patella and about the internal condyle

of the femur. Effusion into the joint rapidly follows, and on examination the knee will be found flexed, and the capsule distended with fluid; flexion will be constant till motions of the knee allow replacement; subsequent use of the limb generally redislocates the cartilage and a recurrence of the acute symptoms follows. Aspiration reveals a sero-sanguinous or sanguinous fluid, depending on the extent of damage. Palpation of the joint for irregularities or projections about the tibial head is negative. After replacement has taken place the patient is able to use the limb but the knee feels weak and a sense of insecurity prevails. Ruptures and tears of the internal lateral ligament occasionally complicate derangement of the semilunar, and also occur without damage to the cartilage. In such cases differential diagnosis is difficult, the main points being induration and swelling near the internal condyle in tear of the lateral ligament, and the limitation of extension in semilunar displacement. The roentgenogram rarely shows any pathology unless repeated dislocations have occurred; in these cases the A.P. view may show a haziness or blurring about the internal articular portion of the tibial head if the case is rayed while inability to fully extend the knee is still present. Unless efficient treatment is started immediately after the primary dislocation, redislocations are frequent and the weakness in the knee increases till the limb becomes practically useless because of apprehension on the part of the patient.

Loose bodies in the knee whether single or multiple should be removed when they cause pain or locking of the joint. A single loose body may be localized by the patient, and in some instances, by the surgeon; if such is possible the mass may be transfixed with a needle and removed under local anesthesia, however the majority require a major operation, and such should be performed under general anesthesia and strict asepsis. When multiple loose or pedunculated bodies are present the joint may be opened through the split patella incision which allows the whole articular surface to be examined; pedunculated masses and capsular tabs as well as loose bodies should be removed; often a synovectomy may be necessary.

Rupture of the crucial ligaments should be treated with aspiration of the excess joint fluid and the knee immobilized in a position of slight flexion. Repair of such damage should not be attempted till weeks after the injury because of the impossibility of suturing the frayed ends of the ligament; at the end of such time if the joint is still unstable repair must be considered. Fractures into the joint should be reduced at the earliest moment, the joint aspirated, and immobilization or extension applied. Open replacement of fragments is necessary in certain cases, especially in fractured patella, and fractures of the tibial spine with lateral displacement; in the latter removal of the fragment is preferable to attempts to replace and suture. The knee should be immobilized for three weeks after reduction of the deformity, and then massage, baking and gentle active, but no passive, motions may be started; a moulded posterior splint should be applied for night wearing for the next three weeks, and guarded weight bearing allowed two months later.

Dislocation of a semilunar cartilage demands reduction and immobilization to justify any hope of repair without operation. Since displacement is produced by torsion of the tibia, with the knee flexed, outwards in internal and inwards in external dislocation, the opposite motions to those producing the displacement should be made in attempts at replacement, the knee to be flexed and the thigh held by an assistant. Lateral pressure must then be applied over the tibial head and the knee passively extended; if the knee can then be held in full extension it may be assumed that reduction is complete. The excess synovial fluid should be aspirated, and a snugly fitting plaster cast applied. No weight bearing may be allowed for at least

three weeks or until union in the torn structure has taken place; weight bearing and motions may then begin but should be checked by a knee brace which allows only slight flexion. Rupture or tear of the lateral ligament should be sought for and if present must be immediately sutured through a lateral incision over the site of damage. The patient's feet should be examined for pronated or flat foot since by far the majority of adults show some pronation. If marked pronation is present it should be corrected before weight bearing is allowed, otherwise a redisplacement may be expected because of undue strain placed upon the lateral ligament. Recurrent dislocations demand operation and removal of the displaced section, or possibly of the entire cartilage, as they never reunite, and disability increases with each subsequent dislocation. Too great stress can not be laid upon the necessity of absolute asepsis in all operation upon the knee joint because infection means probable ankylosis or possibly death. For operation upon the internal semilunar the knee should be flexed over the end of the table; the incision starts an inch to the inner side of the lower pole of the patella and extends obliquely downwards to the head of the tibia, then backwards an inch; the capsule is incised, and the edges of the wound retracted; examination of the articular surface of the tibia reveals the loose cartilage which may be elevated with a sharp hook and pulled into the wound; if the anterior portion alone is found to be loose this should be clipped away obliquely; if a greater area is loose the entire cartilage should be removed, the joint gently swabbed out, and the incision closed in layers while the knee is still flexed over the table; dressings are applied, the limb fully extended, and a moulded posterior splint with slight compression over the knee. The patient should be kept off the feet for ten days, and then physiotherapy, massage and baking, begun. After three or four weeks support of the limb may be discontinued and weight bearing allowed. Any static foot conditions should be corrected before the case is discharged.

### CONCLUSIONS.

Internal derangements of the knee joint, if promptly and efficiently treated, will, in the majority of cases, result satisfactorily to the patient. Osteochondritis desicans presents a more formidable problem than does fracture or deranged semilunar; however, after operation, these patients report less pain and greater freedom of motion than before operation. Perfect restoration of function may be obtained in fractures provided the fragments have been anatomically replaced and torn ligaments repaired. Dislocation of the semilunar cartilage generally continues to give trouble until the cartilage has been removed, though a very few cases may get satisfactory results following the immobilization treatment immediately after the first attack. When the cartilage has been removed about 95 per cent of cases report normal stable joints, the other 5 per cent report more or less instability but greater comfort than before operation.

### DISCUSSION.

Dr. E. D. Fenner (New Orleans): The doctor has given such a splendid review of the so-called internal derangements of the knee that I shall not attempt to enlarge upon it. In the course of his paper there was one or two points that I feel like concurring with very strongly and in emphasizing.

We owe the term "internal derangement" to the English. They were tremendous addicts to out-of-door sports, both tennis and football being indulged in by a large percentage of the population. Especially in the preaseptic days, these obscure injuries would occur and nobody would look in at them and they had to find a term and with their usual practical turn of mind, they just called them the "internal derangements of the knee." Gradually the terrible dread of opening a knee joint passed away and the nature of these injuries has become better understood.

The two or three points to which I wish to refer and especially emphasize are, first of all, the question of distention of the knee joint. It is the biggest synovial capsule in the human body and whenever it is distended, there is increasing damage to the usefulness of the joint. I don't think

it can be sufficiently stressed that, with the proper care to see that you do not put any dirt into the joint, or in any joint that is distended or to be aspirated, the fluid will certainly be either entirely blood or synovial fluid deeply tinged or mixed with blood, and that this ought to be gotten out. Even in more chronic conditions, especially the group of cases Dr. McIlhenny speaks of, chronic hydrops, where they carry distended knees for months or years, aspiration repeated at intervals will not infrequently lead to a complete disappearance of the condition and a restoration to an almost complete degree of a normal condition.

The other point, and I think the only one that I want to refer to especially, is the question of mobilization of joints. I remember, always with a blush of shame, the days when I used to wrap my legs around the poor little child and get somebody to hold its arm while I mobilized stiff elbows and fractures to the elbow joints. Many, many years ago, I, myself, arrived at the absolute, solid conviction that any passive motion that gave the patient pain was absolutely wrong and ought never to be carried out. I don't believe any joint ought to be moved except by the patient's own efforts. We ought only furnish him with such assistance as does not cause him pain. The moment you go beyond that, you increase the pain and irritation, reduce the degree of motion, and do the patient, not only a great deal of damage as far as function of joints is concerned, but inflice an abominable amount of torment for which there is no justification. Of course, when it comes to operating upon a knee joint, the day has gone by when we look at it with a terrible fear with which we formerly faced such a proposition, but with reasonable care, cleanliness, observance of the thoroughly established rules of asepsis, the knee joint can be opened and examined with just about as little danger as we can carry out an exploratory laparotomy.

There is only one word more I want to say in connection with these disturbances in the knee joint. Although it is not usually the case, because as a rule internal derangements of the knee joint are restricted to trauma of various kinds, whose lists have been pretty fully covered by Dr. McIlhenny, but if we want to stretch our view a little bit, there are many other conditions that might be called internal derangements of the knee joint. The dreadful separative effect: Those of you who have practiced for any number of years know that before Wilhams made his wonderful contribution to the surgery of joints, an acute infection of the knee joint meant one of three things, usually the last: an absolutely stiff joint, an amputation, or a burial. Wilhams, in demonstrating that the knee joint could be opened and a stoma produced that would remain open and that such separation is treated in this way, made a contribution whose importance cannot be overestimated. In this connection, it seems to me that whenever anybody speaks of doing an arthrotomy, according to Wilham's principle on acute sepsis of the joint, he should never speak of that matter without adding that when you do an arthrotomy with the idea of restoring function in a place like the knee joint, the seat of acute separation, no drainage tube or an other foreign body should be allowed to penetrate and be left in that joint, because just the moment you do it, you absolutely stop drainage and you assure yourself a stiff joint. Nobody ever put a drainage tube through a knee joint that ever got anything but a death certificate signed or if the patient recovered, a joint that was ankylosed in a good or a bad position.

Dr. Guy A. Caldwell (Shreveport): Dr. McIlhenny has thoroughly covered the subject of internal derangements of the knee and their treatment, and I am in hearty accord with all he has said. There is, however, a little variation in the after treatment of operative cases which I would like to call to our attention.

In many cases I formerly followed just the procedure that he outlined but in the past two years I have followed a different procedure in the after treatment of most of the operative cases of dislocated internal semilunar cartilage or simple loose bodies. I feel that these operations are done with the minimum amount of trauma and the reaction of the joint following the operation is slight, so I do not put on a molded splint or plaster cast but use a massive dressing, a snug roller bandage and long adhesive strips which suffice to give partial instead of complete immobilization. I find the patients are more comfortable and have less trouble regaining motion in the knee afterwards.

Dr. McIlhenny (closing): I wish to thank Dr. Fenner and Dr. Caldwell for emphasizing what I attempted to bring out.

I agree with Dr. Caldwell in regard to partial mobilization, because that is what he gets with his adhesive wraping. In certain cases, however, it has been my experience that unless I insist upon immobilization for the first few days after operation, I have gotton an increase in synovial fluid which continues distention of the already distended capsule and prevents contraction, therefore, I emphasize immediate immobilization for a week or ten days after operation with compression which prevents the reaccumulation of the synovial fluid, and which also tends to promote absorption of such accumulative fluid and allows contraction of the already distended capsule. In my cases, I

had rather use the immobilization for a few days and then allow a gentle mobilization, simply because I feel that where no support is given to any great extent, where certain motion is allowed, as is the case if an adhesive bandage is applied, I do find an increase in synovial fluid.

## PLASTIC SURGERY AND ITS RELATION TO INDUSTRIAL SURGERY.*

ISIDORE COHN, M. D.,

NEW ORLEANS.

This paper deals with surgical repair necessary to restore form and function. It, therefore, has nothing in common with cosmetic surgery which sometimes masquerades under the name of plastic surgery. Such surgery, as I will discuss, may be demanded as a primary treatment to prevent distortion and loss of function from unrecognized injuries remaining untreated or improperly handled.

In the second place I shall deal with those deformities for which secondary operations are done to restore loss of function and to correct existing deformities. We will, therefore, have to discuss injuries which required plastic repair other than those associated with surface damage.

The recent wound, whether it be incised, lacerated or punctured, presents many problems. Some of these problems vary with the location of the wound, but all necessitate immediate consideration of fundamentals. Too often on sight the surgeon proceeds to suture a gaping wound forgetting the possible damage to underlying structures. For this reason it should be axiomatic that the surgeon visualize functional disturbances and deformities which will certainly result from neglect or oversight to attend to damaged structures below the surface.

It may seem trite to remind some of you of a phrase of my former teacher and colleague, John Elliot, Jr., "Remember your anatomy"—yet this is exactly what one must do. To suture a superficial wound and and leave unattended a severed nerve or tendon will produce a deformity, and may result in the form of a walking advertisement detrimental to us, to say nothing of a possible damage suit.

To emphasize this point let me cite the case of a young woman who thrust her hand through a glass door. The wound was sutured by the attending physician. After five weeks she presented all of the distressing evidence of a medium nerve injury, atrophy, loss of function and anesthesia. After secondary operations she was eventually able to resume her work as a telegraph operator.

It is always better to investigate primarily; if such an injury exists, correction is easier and disability is shortened. Such primary attention adds to economic efficiency, and the surgeon's own reputation. Furthermore, a frank statement of existing damage causes the patient to be more cooperative and at the same time more appreciative of good end results.

Wounds about the face, particularly below the lobule of the ear, and over the parotid region in which the facial nerve may be injured should be carefully examined for evidence of motor paralysis. Certainly nothing could be more humiliating than to overlook such an injury, and yet it is easy to obtain evidence of facial paralysis. It is certainly easier to find the ends of a severed nerve and suture them primarily than later to attempt to restore muscle control by anastomosis, either with the spinal accessory or hypoglossal nerve. At best the result in late repair and anastomoses are not good as may be attested by anyone who has done these operations. I should like to add that finding the facial nerve in scar tissue is not an easy procedure.

In wounds about the face one can not overlook muscle damage. Severance of the masseter will result in a deformity of the face and some loss of the normal masticatory power, severance of the orbicular muscles produce deformities of the facial orifices.

*Read before the Louisiana State Medical Society, Shreveport, April 29-May 1, 1930.

Illustrations are provided by recent experiences:

Case I. Mrs. D. had multiple lacerations about the face and a fracture-dislocation of the hip, due to a fracture of the acetabulum. If attention had been focused on her hip and the facial wounds handled in a perfunctory manner she would have had an ugly deformity of the left upper lid. After the superficial wounds had been debrided and the blood clot removed, it was found that the orbicularis had been severed. Bleeding was controlled and the muscle edges were approximated. The skin margins were approximated without tension. Healing was primary and she had no loss of control of the lid.

Case II. Master T. G., June 15, 1929. Multiple lacerated wounds of the right side of the face, right upper lip, left upper lip and scalp. The wounds were sutured under anesthesia by a physician.

I was called after the child had been taken home. At that time there was some puckering and swelling of the upper lip. It was my impression that there would be some disturbance of the vermillion border and the parents were advised of this.

On June 24, 1929, we found all wounds healed but there was a distinct loss of alignment near the angle. The vermillion border presented a step-like process of about at least one-fourth of an inch downward. When the lip was retracted there was a puckering of the mucous membrane.

A deformity, such as exists in this case, is so apparent that the child will have to be operated on.

These cases serve to illustrate certain other fundamentals of wound treatment. Debridement is essential for primary healing. Fine scars so much desired cannot be expected to result when devitalized wound edges are sutured. Following trauma it is certain that some devitalization will result. One should debride not because some claim this to be a development of the recent great war experience, but because it is an essential for wound healing following trauma. Perfect hemostasis is an undisputed necessity.

Wound edges must be approximated in such a manner that normal plans are restored. About the face this is particularly important. When suturing wounds of the lip primary consideration should be perfect approximation of the vermillion border. In suturing wounds about the eye, wound edges must be approximated so that subsequently an ectropion will not result.

The next group to be discussed are cases in which we found severed tendons. Failure to suture a severed tendon results in permanent disability. An injury not infrequently severs a tendon without producing a superficial wound. All lacerated wounds should be enlarged and the depths inspected for evidence of tendon and nerve damage.

Tendon suture requires special technic. Bunnel's suggestions for tendon suture are the best that I know. When exposing the site of a severed tendon it is best to place the incision so that the suture line in the tendon will not be immediately under the superficial scar, as such a status would favor limitation of motion by fixation of tendon to surface scar.

After tendon suture a molded splint should be applied so as to relax the tendon which has been sutured. The splint should be on the opposite side of the extremity from the suture line in order to avoid pressure.

Case III. Severed flexor tendons. Mr. S. L., May 16, 1929, had a lacerated wound on the volar aspect, about the middle third, of his forearm. The wound which was about two inches long in the transverse axis of the body, was gaping. No evidence of anesthesia, such as would have followed a median nerve injury was apparent. After infiltrating with novocaine the wound edges were debrided and retracted. We could then see a tendon which had been almost completely severed. This was one of the flexor sublimis digitorum tendons The palmaris longus tendon had been completely severed. These tendons were sutured, after which the wound edges were approximated. A molded plaster splint was applied on the dorsum of the forearm and hand, with the hand in palmar flexion. This was done to relax tension on the tendon which had been sutured and also to avoid pressure over the suture line. The end result was a restoration to normal function.

Case IV. Mr. J. U., December, 1928. During a New Year Eve revel the patient sustained multiple lacerations on the dorsum of the thumb. We found that the tendon of the short extensor of the thumb had been cut in two places. The proximal portion had retracted at least two inches. After suture a splint was applied with the thumb abducted.

He was last seen April 15, 1929, at which time he had no limitation of motion of the thumb.

Case V. Master L. A., A more interesting illustration is that of this child who was struck on the dorsum of his ring finger by a baseball. The terminal phalanx remained flexed with loss of voluntary extension. Even though there was no ecchymosis or other outward manifestations of recent injury we exposed the tendon and found it severed.

The flap consisted of two lateral incisions connected by a transverse incision. The flap was retracted, thus exposing the severed tendon. The value of such an incision lies in the fact that the scar is not placed over the long axis of the tendon, hence there is less tendency for the scar to interfere with movement of the tendon.

The splint was made of dental modeling compound. This is so molded as to maintain complete extension of the finger and thus relax tension on the sutured flexor tendon. This is not an original idea, but one which I had occasion to see in use on a recent trip to Eastern clinics.

Let us compare these cases with one (many more could be cited) in which a child acting as a slater's assistant sustained a wound on the dorsum of the fourth finger. The physician in attendance sutured the wound. Five weeks later he presented himself with a flexion deformity of the terminal phalanx which we were able to correct by suture of the extensor tendon, the severance of which was overlooked by the attending surgeon at the time of the accident.

I do not believe that we think of tendon and muscle injury sufficiently often. This is particularly true when no wound exists. Recently I had occasion to operate three cases of partial severance of the triceps tendon when no wound on the surface existed.

Each case presented the same manifestations, partial loss of extension, swelling over the elbow, and a depression which could be palpated particularly when the forearm was completely extended on the arm. Failure to recognize the condition and suture the tendon would probably have resulted in a permanent partial disability.

Case VI. Miss S. G., aged 49 years. September 28, 1929, gave a history of falling on her elbow. On examination I found a fluctuant, eliptical swelling on the posterior aspect of the elbow. The patient was able to extend and flex the elbow. The bony landmarks were not disturbed. Above the tip of the olecranon I could feel a depression and some tissue that seemed to be rolled on itself as though there was a severance and retraction of soft tissue.

With the elbow flexed at right angle a semilunar incision was made. As soon as the skin was retracted the subcutaneous tissue showed evidence of recent hemorrhage. The triceps tendon near its insertion in the olecranon was partially severed. The tendon was sutured with chromic catgut and the skin sutured with dermol. A light plaster cast was applied with arm in extension.

February 24, 1930, the patient has a perfect functioning elbow.

Case VII. Miss M. G., aged 18 years. December 18, 1929, gave a history of striking her elbow. Complaint: Numbness in elbow, and loss of "strength" in elbow.

Examination revealed no loss of carrying angle. Brush burns over the posterior and radical side of the left elbow. No swelling. No apparent deformity. In extension the circumference of the left elbow was 20 cm, right 20.2 cm. No pain over the internal condyle, no pain over external condyle. Slight pain over the tip of the olecranon. Head of the radius rotated with the shaft. Tenderness above the tip of the olecranon and there was a soft depressed area just above the tip of the olecranon; and there seemed to be a rolling up of the tissues about the olecranon in the midline. This area was sensitive. Flexion of the elbow exaggerated pain. When the elbow was flexed you could see a definite depression. I advised operation as I believed that the triceps tendon was partially severed.

Operation December 18, 1929. Semilunar incision was made, convex aspect of wound downwards. As soon as the skin was dissected back, we found that the olecranon bursa was lacerated and some of the superficial fibers of the triceps severed. Interrupted mattress sutures were introduced for closure of severed triceps and bursa. Skin closed with interrupted fine dermol sutures. Plaster cast applied.

February 1, 1930. Perfect functional result.

Case VIII. Mrs. S. J. P., aged 32 years. December 19, 1929, gave a history of an automobile accident. On examination I found slight swelling over the point of the elbow below the tip of the olecranon. There was a depression and tenderness over the olecranon process. Bony landmarks in normal relationship. No limitation of pronation nor supination. I advised operation as I believed that there was a partial severance of the triceps tendon.

Operation: Semilunar incision was made, convex aspect of wound downwards. As soon as the skin was dissected back we found that the olecranon bursa was lacerated and some of the superficial fibers of the triceps severed. Interrupted mattress

sutures introduced for closure of severed triceps and bursa. Skin closed with interrupted fine dermol sutures. Plaster cast applied.

February 20, 1930. Perfect functional end result.

Deformities which result from loss of tissue, or in which contractures result, demand special attention. In this group one may include gunshot wounds, burns and crippling deformities of the hand.

Where part of the external ear or an eye lid has been destroyed, replacement by plastic procedure is important.

In the case of the ear, nose and lid, Gillies, Blair, Davis and others have stressed the importance of replacing all types of tissue as nearly as possible, especially the supporting structures; cartilage and bone. Pedunculated grafts are best used for this purpose:

Case IX. Colored male, aged about 25 years. History of gunshot wound which destroyed the lower portion of the ear. The reconstruction of the ear was done by making use of a tube pedunculated flap from the neck. The illustrations demonstrate the end result.

Where the lower lid has had to be entirely replaced either because of accident or following the removal of a new growth, the reconstructive operation should be such that the tarsal cartilage is replaced by cartilage, preferably from the ear. The palpebral conjunctiva may be replaced by skin. The graft does not irritate the bulbar conjunctiva. To illustrate such procedures the following case of Mr. D. is included:

Case X. Mr. A. D. The entire lower lid and that part of the upper lid which formed the outer canthus was removed. In order to replace the lid a pedunculated graft was taken from the forehead and a piece of tarsal cartilage from the ear was used to replace the tarsus of the lower lid. A tube was made and one side of the flap was used to replace the palpebral conjunctiva and one the skin surface of the lid. After several operations the lid functioned well, sufficiently to form a protective covering for the bulbar conjunctiva and the cornea for four years at which time a recurrence of the growth appeared in the skin just below the lid which necessitated exenteration of the orbit.

This case has been reported in detail in a previous paper and the only point of interest in this paper is the plastic repair.

Burns are included because extensive loss of tissue results and because contractures can in some instances be avoided; in others plastic procedures must be resorted to in order to overcome the disability.

In the primary treatment of burns, after pain is relieved, shock overcome, and the fluid balance restored, it is essential to consider the prevention of contractures when the burned area is in the vicinity of a joint. Flexion contractures of the knee and adduction of an upper extermity can be avoided by resorting to traction. Extensive superficial burns will produce contractures as well as deep burns. In all cases of burns of the extremities traction should be used where possible and active motion must be resorted to as early as possible.

If the above precautions are adopted it may not be necessary to resort to extensive plastic operations at a later date.

All violent passive motion whether under anesthesia or without it should be tabooed as such procedures tear scar tissue, cause interstitial hemorrhage and subsequent increase in the amount of the scar tissue.

Where contractures have developed I believe that gradual stretching is valuable in the preparation for subsequent operation, which include removal of the cicatrix and grafting. Where contractures have developed physiotherapy in some form (dry heat, infra red, diathermy, sinusoidal current, together with massage) increase the elasticity of scar tissue and diminish the extent of the subsequent grafting.

Blair and Davis advocate early grafting to prevent economic waste. The type of graft to be utilized will depend on the enthuiasm of the operator. Davis uses the small deep graft and Blair the "large split-skin graft." In the hands of the masters each is equally successful.

Case XI. Master C. W., aged 11 years, had a extensive body burn. During the period of repair the arm was permitted to remain adducted. He presented himself to an institution with a contracture so great that the arm was approximated to the chest wall. A surgeon removed some of the scar tissue from the axilla and applied a full thickness graft. No preliminary gradual stretching was done.

When the child first came under our observation, the arm was adducted, the only movement which he had was a scapular motion. An abduction splint was applied and gradual stretching plus physiotherapy was proceeded with.

He now has 130 degrees motion and the skin is soft and pliable. It is hoped that at a subsequent time some of the scar tissue may be removed, and if necessary grafting done. If traction had been applied to this case originally there would have been no contractures to overcome. The recent suggestion of John Stage Davis for diminishing the size of disfiguring scars, offers the opportunity to help a great many disabled patients. This applies particularly to the case of M. G.

Case VII. Master M. G., aged 12 years, was injured in an automobile accident three years ago. He had an extensive lacerated wound of his right thigh besides other injuries. The disability which he presented was an inability to flex the knee.

We found a large irregular scar which covered the right thigh from the great trochanter to below the knee. The skin was tense, the scar tissue thickened, and varied in color from white to a reddish purple.

On February 6, 1930 the following note was made "Scar is softer and the skin on either side more pliable.'

During the next few months it is proposed to excise the central portion of the scar, mobilize the edges and then approximate them. After several stages we hope to be able to substitute a much narrower scar for the present large cicatrix. When properly done this procedure should prove a satisfactory substitute for grafting and should revolutionize the management of certain of these cases.

One cannot consider contractures without thinking of the crippled hand. This group includes Dupuytren's contractures as well as those of congenital and traumatic origin. Cases of each type are presented here and the treatment of each will be briefly discussed. While the congenital webbing or syndactylism does not properly belong in this paper, a case report is included and the principles of operative management are mentioned because treatment of traumatic cases should properly follow the lines of the congenital case.

The following case reports emphasize the importance of conservatism in the handling of the traumatised hand. Where syndactylism partial or complete results from trauma or burns the principles of plastic reconstructions should be applied. Where contractures result from injuries, the same principles which guide us in the treatment of Dupuytren's contracture should be observed.

Case XIII. Syndactylism. Baby G. D., aged 10 months, December 6, 1928. Examination of the right hand of the baby revealed five well developed fingers and thumb. There was a definite web which united all of the fingers and the thumb. All of the fingers except the index were well developed and their outlines could definitely be made out. The index finger was broader than the thumb and the nail of the index finger showed a definite bifurcating line which suggested a supernumerary phalanx. All of the fingers were flexed.

The web between the thumb and the little finger was very narrow. When left to himself he could make a fist. I could make out five phalanges, but I think that the index finger has accessory second and third phalanges.

A roentgenogram was requested and plastic work was advised.

Operation was done February 22, 1929. Agnew's operation. The little finger and ring finger were the only fingers operated. An incision was made on the dorsum of the hand, between the nails of the little finger and ring finger and carried back to the middle of the first phalanx. At this point a Y-shaped flap was made and dissected up, so that its base extended above the metacarpo- phalangeal joints 4 and 5. The hand was then turned over, and on the volar aspect the incision was made from the tip of the fingers to the base of the volar aspect. The fingers were then separated and the flap from the dorsum was sutured in situ to make a web. Then the skin of the dorsum was sutured to the skin on the volar aspect of either finger.

A secondary operation was done on March 6, 1929. At this time the thumb, index and middle fingers were operated after the Agnew plan.

On April 15, 1929, the third stage of Agnew's operation was done. The middle and ring fingers were operated as the other fingers had been.

When last seen the child could move all of his fingers individually. There is a contracture of the little finger which will be corrected.

The Agnew operation offers the best means of providing an interdigital fold in the proper place. The Diddo operation does not make provision for this. The operations are described in detail in text books, particularly in Babcock's recent surgery.

The value of knowledge of the above procedures is illustrated in the case of M. S.:

Case XIV. Diagnosis: Lacerated wounds, contractures, partial syndactylism. M. B., aged 7 years, March 22, 1929. An explosion produced a badly lacerated wound of the hand. The second and third phalanges of the index and middle fingers had been blown off.

Examination revealed superficial lacerations of the palm of the hand, superficial lacerations of the little finger. Lacerated wounds of the flexor surface of the ring finger. The flexor tendons were exposed the entire length of this finger. The middle finger had been blown off leaving the distal end of the first phalanx exposed in the wound. All of the skin on the flexor surface was badly lacerated. A similar condition was noted in the index finger.

The volar aspect of the thumb showed lacerated wounds from the terminal phalanx to the thenar area. The flexor tendon was exposed in the wound. The first phalanx of the thumb was fractured in a linear direction.

Treatment: The wounds were debrided. In the case of the index finger the flexor tendons were sutured with the extensor tendon over the end of the phalanx and a few skin sutures introduced. A similar procedure was done with the middle finger. Just a few approximation sutures were introduced on the flexor aspect of the ring finger. The thumb was similarly managed. Dichloramine T, vaseline strips, dressing.

A secondary operation was done on June 12, 1929. Ring finger of left hand was flexed at interphalangeal joint, on account of scar tissue. Scar extending not only on the flexor surface but lateral areas of the finger, up to the middle of the first phalanx, almost down to the base of the terminal phalanx. This scar tissue was excised and the tendon exposed. Then a free full thickness graft was taken from the lateral aspect of the left thigh and sutured in situ (the defect in finger).

The defect from the thigh was approximated with continuous interlocking suture material. The index finger, that is the remainder of the index finger, and middle finger had become webbed as the result of scar tissue.

A modified Agnew's type of operation, as for syndactylism, was done.

When last seen, February 21, 1930, the child was able to make a fist. There is a slight flexion deformity of the terminal phalanx of the thumb. Slight webbing of the remaining first phalanx of the middle and index fingers. There is a flexion deformity of the ring finger. At the interphalangeal joint two and three the finger is narrow. The scar tissue is markedly contracted. Even though the child is able to use the hand to hold objects, and to button her clothing, tie bows, a plastic operation will be done in an attempt to completely extend the ring finger and to overcome the webbing of the middle and index fingers. There is a fissure at the interphalangeal joint of the thumb.

Case XV. Contracture of finger due to traumatism. Master B. C., April 9, 1929. About two years ago he sustained a lacerated wound of the flexor surface of the hand. After the area healed he noticed a flexion contracture. The original attempt to correct the deformity was unsuccessful.

May 13, 1929. There is a flexion deformity of the ring finger which causes the interphalangeal joint to appear broader than its fellow on the opposite side. There is a narrowing of the second phalanx and the skin over the flexor surface of the second phalanx seems to be thinner than that over the first.

An incision was made beginning above the first interphalangeal joint and extending down about one inch. A similar incision was made on the opposite side of the finger and the two were connected by a transverse incision. The flap thus made was dissected and reflected upward after which scar tissue on either side of the finger corresponding to the linear incision, was cut so as to relieve the skin on the lateral aspects of the finger. The scar tissue was removed from the under surface of the flap, after which it was possible to completely extend the finger. The flap was sutured to the portion of the lateral aspect of the linear incisions. When we had completed this suture, there was a defect about one-half inch in length and one-half inch in the transverse axis of the finger. In order to close the defect, a free full thickness was taken from the forearm.

The end result is a perfect functioning finger.

Comments: This case presents all of the essential pathology of Dupuytren's contracture and illustrates well the part played by involvement of digital fascia in the produc-

tion of contractures even though there is no shortening of the tendon. It also shows that Dupuytren's contracture may be due to trauma. In the management of such cases it is essential to remove all of the scar tissue.

Since the above cases are essentially the same as Dupuytren's contracture in their pathology it is not out of place to discuss a true Dupuytren's contracture.

Case XVI. Mr. J. D., May 21, 1926, stated that two days previously he first noticed that his little finger was drawn up. Swelling just above the metacarpo- phalangeal junction of the little finger. No pain associated with it. No history of injury.

Examination revealed the ring and little finger flexed on the palm. There was a circumscribed swelling over the first phalanx of the little finger just above the interphalangeal joint. Extending upward there was a narrow elevated ridge which faded out into a puckering of the palm which was about 2 cm. in the transverse axis of the body. Above this puckering the creases of the palm showed deep, possibly about ¼ cm. and beyond this crease the flexed tendon stood out rather boldly. The swelling on the flexor surface of the little finger seemed circumscribed and slightly movable in a lateral direction. It is made very much more prominent when the finger is stretched and the tendon in the palm stands out more prominently as well. Extension of the ring finger produced a similar appearance. At the metacarpo phalangeal junction, where the greatest puckering was noticed, there was a similar circumscribed area along the tendon. Flexion of the finger at the palm caused a marked relaxation and allowed the greatest mobility of the circumscribed mass.

Operation proceeded with May 21, 1929. An incision was made across the lower crease of the palm, at right angles to this an incision was made upwards on the palm, corresponding to the outer limit of the palmar space. This triangular skin flap was then retracted upwards, and the thick palmar fascia which was causing the contracture was seen; it was dissected away from the flexor tendon, and as soon as this was done, the palm was seen to relax. We could straighten out the little finger and ring finger without great difficulty.

However, the prominent mass on the palmar aspect of the first phalanx of the little finger was still present. We therefore made a transverse incision at the base of the little finger and in order to facilitate removal of the fascial digitation, a linear incision was made down to the first interphalangeal joint. A circumscribed, hard, fibrous growth was removed from under the skin, and this then exposed the tendon sheath of the flexor of the little finger.

A fat transplant was then removed from the outer side of the right thigh, this was placed on the palmar space, and the skin closed with interrupted dermol sutures. A molded splint was applied.

One month later he had perfect flexion and extension of all of the fingers. Since that time he has had no discomfort nor recurrence of contracture.

Dupuytren's contracture "is a hypertrophy and contracture of the fascia of the hand" (Kanavel). This definition indicates a true conception as opposed to the oft restated erroneous idea that it is a contracture of the palmar fascia. It is true that the process usually begins in the palmar fascia, but may and does involve, as the process progresses, all of the portions of the fascia of the hand. Kanavel, Koch and Mason state that "for descriptive purposes the fascia of the hand may be divided into four parts; the superficial palmar fascia, the volar interosseous fascia, the dorsal fascia, and the digital fascia. Various septa, fibers, and ligaments help to unite these layers and bind them into a compact whole."

"The many short vertical and oblique fibers, arranged in fairly definite longitudinal lines, which unite the fascia to the deeper layers of the skin have been described by a number of observers, but are usually unmentioned in text-books of anatamy. They are of particular interest for through this attachment between the palmar aponeurosis and the skin is produced the dimpling of the palmar skin which is frequently the first sign of Dupuytren's contraction."

The flexion of the fingers that develops as the contraction of the palmar fascia progresses is due chiefly to the continuity of the superficial layer of the digital with the longitudinal fibers of the palmar aponeurosis.

"Dupuytren's, and later Sevestre' Lanem Schulthess and other investigators who were

fortunate enough to secure specimens of such hands for dissection have shown that only fascia and the overlying skin are involved in the contracture, the flexor tendons and their sheaths remain quite normal. That the fascial involvement, however, is not limited to the superficial palmar fascia or aponeurosis has not been sufficiently emphasized."

The etiology is unknown although many theories have been advanced, these include trauma, infections, toxic conditions and heredity. I do not believe that it is possible to eliminate repeated trauma such as the hand is constantly subjected to as a causative factor in some cases; nor do I believe it possible to state that the cases such as M. B. and Master B. C. which are definitely traceable to a single injury, are not identical with contractures of unknown origin in their pathology. In any event, the treatment must be identical. To treat the condition the pathology must be understood. The fascia and skin alone are involved. The removal of the scar tissue must be complete and the defect closed without tension.

Kanavel was the first to suggest the interposition of a free graft. While he does not use it routinely there is no question that the graft thus interposed serves a useful purpose.

After removal of the scar tissue the flexed fingers can easily be extended. I believe it essential to maintain extension until the superficial wound has entirely healed. For a long period after operation the palm should be protected from injury. When properly treated there is little tendency for contractures to recur.

Conclusions: The foregoing personal experiences have been presented with the idea that they may be helpful to others in the management of similar cases, and to demonstrate my conviction that traumatic surgery must of necessity face the problems of plastic surgery frequently.

DISCUSSIONS.

Dr. H. B. Gessner (New Orleans): I did not hear all of this paper, but I think that one thing that might be done is to stress some of the points brought out, especially the importance of burns. Probably burns contribute more than any other form of pathology to the deformities that come out of general practice.

There are three stages of burns: the stage of shock, the stage of therapeutics, and the stage of orthopedics. By the last mentioned stage I mean that stage when we ought to keep the orthopedist from getting a job. The general practitioner ought to be trained to watch that third stage and to keep the orthopedist from getting the patient into his hands.

Dr. I. M. Gage (New Orleans): There is very little that I can add, as all the things that Dr. Cohn performs or writes, or usually that can be said, is incorporated in his paper.

With plastic work, I would like to say that it is really one of the highest types in specialization that we have. Both the surgeon and the patient must have extreme patience. I think Dr. Cohn said that in industrial surgery a large number of cases we do takes plastic surgery—where it is impossible to cover the defects by the normal skin instead of letting it granulate up. I believe that in these cases we can do whole thickness grafts, and cut down the disability of the patient at least by two or three weeks.

In the amputation of the fingers, where they are cut right straight off, all of them are skin grafted immediately when they come into the hospital. The result, in ten days' time, is the normal contraction of the fingers. In all plastic surgery, one has to have a great deal of patience. Where there is an unusual type of plastic work, to get good functional results, the individual should be sent to a man who specializes in plastic surgery. Otherwise the results won't be as we hope for them to be.

I can say, from my association with Dr. Cohn in his clinic, that the results he obtained were remarkable from the standpoint of his constant effort and meticulous care in handling all patients that came under his observation. And he is not such a hard taskmaster either. I can only say that my first stimulus was obtained under him and I have tried to do plastic surgery, with good results in some cases and disappointing results in others.

Dr. Guy A. Caldwell (Shreveport): I think that a word of stress might be added to Dr. Cohn's excellent paper with particular reference to tendon sutures. It is amazing the number of cut tendons that are overlooked until the patient's wound is healed and his hand is off the splint. Tendons are usually cut by sharp instruments or fragments of some kind and such wounds can be cleaned and sutured immediately but the work should be done

carefully. A mistake is too often made by the first one who treats the case. If he does not recognize in the beginning that he is dealing with a cut tendon, he undertakes the work with inadequate equipment, supplies and assistants, expecting to do a simple skin suture. When he discovers the cut tendon he is likely to go ahead without further preparation and suture the tendon, and, of course, infection develops, the tendon suture is lost, and the function is bad. I think a thorough examination of all incised or stab wounds should be made before suture is undertaken. It is not difficult to recognize whether a tendon is cut if a careful examination is made. If a cut tendon is found, the case should be taken to an operating room even though it is simple, and a very careful, clean operation should be done followed by a very accurate and careful splinting.

Splinting is exceedingly important and has a great deal to do with the primary union of the parts. The average physician is prone to put too short a splint wherever he uses one. Those cases deserve the most careful observation after operation because they should be sutured up completely with perhaps only a small rubber tissue drain or preferably none at all. Delayed suture of divided tendons, poor facilities and technic when operating, and failure to recognize the presence of a severed tendon, are the factors responsible for most of the poor results we see.

Dr. Cohn (closing): The first thing I want to mention is the fact that Dr. Gessner called attention to, the importance of burns. In the body of the paper, we have cited the case of a child who had extensive body burns and in this instance a graft had been put on, but the child's arm had not been abducted at the time. Every time the child tried to raise his arm he couldn't at all, but the body swayed to the opposite side. Following the principle that Dr. Gessner said, they would get into the hands of the orthopedists we beat Dr. Caldwell to it by applying a splint, and during this period the child was getting physiotherapy, and soon he was able to raise his arm to 130 degrees. In the future, we plan to follow the suggestion of John S. Davis by making the scar narrower, by cutting out the central part and undermining some of it and bringing the edges together. In some instances this can be done so as to make of a rather large scar a comparatively narrow scar. The importance of watching those injuries about the face carefully and suturing them so that the vermillion border of the lip particularly is entirely restored cannot be overemphasized.

In tendon sutures, I was thinking of those tendons where no wound exists and where the injury was not due to a sharp object but to a blunt force, particularly thinking of children playing baseball. I have seen such instances, even though there was no swelling yet find the tendon completely severed. We find that some of the greatest authorities say, "Don't put any splint on them." For the life of me, I can't see the rational. It seems to me the splint should go, not for a short distance, but the entire length of the muscle which in contracting may cause deformity.

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## ROENTGEN DIAGNOSIS OF PULMONARY TUBERCULOSIS WITH ESPECIAL REFERENCE TO PATHOLOGICAL CLASSIFICATION.*

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Of the diseases of the lungs, the one most commonly met with is tuberculosis, with the possible exception of chronic bronchitis. Although tuberculosis manifests itself in different forms in various parts of the body, we are inclined to believe that it has a predilection for pulmonary tissue, or, to be more exact, that pulmonary tissue is particularly susceptible to the tubercle bacilli, due to inhalation and to the fact that the lungs never are limited in their mobility, except by disease, as a protective measure.

Roentgenologically the diagnosis of pulmonary tuberculosis offers few difficulties, except in the extremely early cases and those which are atypical. This is explained when we realize that certain parts of the lung fields are prone to become involved in the tuberculous process, and the roentgen-ray appearance corresponds to the pathological process. That is, the pathology of pulmonary tuberculosis, at its inception, often follows a more or less definite course, and presents a picture which is as truly characteristic as if we were examining the lung at the autopsy table. Thus, roentgen-ray diagnosis in a broader sense depends largely on gross pathology, and all that we need to do to accomplish an accurate diagnosis is to go one step further and interpret our find-

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ings on the basis of gross pathology, almost as truly tangible as if we were actually holding the diseased lung in our own hands.

We all have had the experience of making a complete and painstaking physicial examination of the chest, perhaps expecting to find many rales or marked dullness which we have been led to believe are present from the history of the case, and not finding these signs, and not yet being convinced, we have referred the case for roentgenologic study of the chest and have been amazed to discover that one or both apices are involved. Conversely, we may find auscultatory signs that are suggestive of tuberculosis, and upon roentgen study prove the signs as not significant.

The chest that is within normal limits must be thoroughly studied and understood before we are able to make unerring diagnoses in the minimal or incipient cases of pulmonary tuberculosis. It must be remembered that it has been said that 90 per cent of all patients coming to the autopsy table have old healed tuberculosis lesions, of course, for the most part, small and unimportant, but we do know that, should the resistance of these patients have become lowered, they would have been candidates for active tuberculous infections, however small the original focus. Hence, we must be on our guard for the differentiation of the normal chest from the minimal lesion. In the normal chest the hilar shadows are prominent, which is due to the pulmonary vessels, the bronchi, and the glands. If their shadows are irregular, unduly prominent, or studded with calcified or soft nodules, we can not overlook it.

The mediastinum should be carefully observed roentgenoscopically. Kornblum and Cooper (3) state that "involvement of the mediastinum is a constant finding in all cases of pulmonary tuberculosis, although in adults the lung involvement usually predominates. However, there may be little evidence of pulmonary pathology, and the findings those of mediastinal disease." Mediastinal tuberculosis is largely a disease of the lymphatic system, and if the disease remains confined to the hilar and perihilar glandular structures, the term "mediastinitis" is not justifiable. Warthin[11] describes three types of tuberculosis of lymph glands, (1) the miliary type, (2) the type in which there is a cellular hyperplasia with tumor formation and (3) the type in which there is rapid caseation and softening. There is no hard and fast line between these types. A diffuse tuberculous involvement of the mediastinum is probably more common than is generally supposed, but due to the fact that it is accompanied by marked pulmonary involvement, the mediastinal manifestations are overlooked or given secondary consideration. The characteristic roentgenologic appearance is a smooth regular widening of the mediastinal shadow, the trachea may or may not be displaced, but if deviation is present, the direction of displacement is toward the side of greatest involvement.

The normal lung field has definite markings of a certain fairly uniform pattern and density, which represent the smaller vessels—arteries, veins and lymphatics, the ramifications of the bronchial tree, and the pleura. The first space and vertebral branches are the most important of these markings in the diagnosis of tuberculosis, although the alteration of size, contour or density of those in the lower pulmonary fields are signficant in establishing the presence or absence of tuberculosis, or other associated disease.

The diaphragmatic shadows may show a wide variation in position and contour. As the diaphragm is a semi-muscular body, an irregularity in contour may be due to the normal motion of respiratory work, and not to adhesions, as is so commonly reported. The cardiophrenic and costophrenic angles are normally clear, regular and show an acuity of angle. These may be obliterated by pleural thickening, pneu-

mothorax, or fluid, and should be carefully observed in cases of pulmonary tuberculosis. Both apices are normally clear and well aerated, and should be of the same relative density as the lower portion of the pulmonary field.

The size, shape and symmetry of the thoracic cage are important and are always presumptive evidence in making a diagnosis. Gross pathology of pulmonary tuberculosis as applicable to roentgenology is fairly uniform in its manifestations. In its incipient stage, the myriads of tubercles are scattered along the bronchioles and in the walls of the vesicles, presenting the increased density of the lung markings which we call an infiltrative process. In the beginning it spreads along the previously existing channels only, usually by means of the small lymphatic channels, but may be blood borne. In a short time these tubercles are beginning to coalesce and we see a mottled area which on the roentgen-ray films appear as a soft feathery density. As previously mentioned, the channels most often affected are first space and vertebral branches, and the infiltration may reach into the apices during the incipient stage. We believe that the origin is frequently central, spreading out from the hilum and reaching into the apices and the peripheral portion of the lung. At this stage we often observe the so-called Dunham fan, which is no more than a fan-shaped area produced by the tuberculous infiltration of branching bronchioles, with a coalescing of the small tubercles in the parenchyma between the branches. This sign is considered by some to be pathognomonic of tuberculosis. Dunham[1] states that "The fan contains tubercles, but if you wait until they can be demonstrated on the plate, it will be an old process with which you are dealing." "It is common for tuberculous exudate to be absorbed, for scar tissue to be laid down, for the fan to contract and so for its density to increase." Caseation within the small tubercles often calcifies, and the pleura over such a lesion may thicken. The fans may reach considerable size, and due to the conformation of the bronchial tree, the base of the fan points centrally. In the early stages all of this infiltration is of the exudative type, that is the processes are soft, moist, feathery in appearance, usually rapidly progressive, coalescing, and without tendency to heal in the early stages. The lesions may be so virulent or the resistence so slight that cavitation sets in very soon. Cavities favor the growth of large numbers of tubercle bacilli, the mucus is coughed up, small infected droplets are aspirated into other bronchi, and we see the mottled picture of caseous bronchopneumonia. On the other hand, small lesions may undergo repair, but it is quite common for the exudate to be absorbed without evidence of fibrosis, calcification or thickened pleura. These coalescing densities may reach considerable size after a time and are always looked for and usually found in the upper thirds of the pulmonary fields, within the circle of the first rib on either or both sides, or in the infraclavicular region toward the periphery.

Assmann[7] describes what he believes to be a characteristic type of pulmonary lesion in the early stages of tuberculosis of the lungs, particularly in young adults. The lesion consists of "an isolated, rounded focus of varying density, usually situated just below the clavicle, in the lateral part of the pulmonic field." He states that it is of fundamental importance to understand that in contradistinction to the generally accepted idea that pulmonary tuberculosis nearly always begins in the apices, the type of lesion described—the infraclavicular focus—is associated with absolutely normal apices.

Now, this exudative stage of the pathological process may become the caseous stage, or it may begin the reparative stage. The generally accepted idea of healing of tuberculosis is expressed by Delafield and Prudden as follows: "Small foci of tuberculous inflammation which are called miliary tubercles may extend and coalesce so

that with more or less exudative pneumonia, large areas of the lung may become consolidated, thus developing one of the forms of pulmonary tuberculosis called phthisis. On the other hand, small tubercles in the lung may, with or without extensive necrosis, become surrounded by, or converted into masses of dense fibrous tissue. These fibroid masses, which are often called 'healed tubercles,' may contain necrotic material, or may be calcified at the center."

Virchow believed that cheesy transformation was the regular termination of the tubercle, but not the necessary one, inasmuch as there are cases in which tubercles, in consequence of their undergoing a complete metamorphosis, become capable of reabsorption. Dunham[10] makes the statement that, "To us it conclusively demonstrates that tuberculous exudates are frequently absorbed. Many of the lesions observed have been tuberculous caseous bronchopneumonia in far advanced cases. We believe that absorption is even more common in apical lesions—." If the process becomes of the caeating type, we see a soft lesion which may be in the parenchyma of the lung, or in the glandular tissue and it is at this stage that the pneumonia becomes evident. One of the sequelae which may follow is cavitation, beginning as a small hardly discernible loss of parenchymal tissue, which may enlarge to any size up to that of a lobe. Cavities are frequently multiple, and may give the picture of one large multilocular cavity. These cavities, if due to tuberculosis *per se*, seldom if ever occur below the middle one-half of the lung. They frequently communicate with a bronchus, and then much of the actual caseous material may be extruded by coughing, or spread to other parts of the lung.

Three roentgenologic types of cavities are described by Pinner[4] first, that showing multiple small "moth-eaten" areas in infiltrated parenchyma. This type suggests that there is little defence of the surrounding lung tissue. Secondly, he mentions the "round" cavity, which shows beginning defense, with the prognosis more favorable, where the cavity outline is thin and sharply defined, than where a broad border of exudative infiltration is seen on the film. The third type of cavity is the fibrotic, thick walled cavity, which frequently shows an irregular outline. The latter type may not always be clearly demonstrable roentgenographically because of the fibrosis and marked pleural thickening. Farmer[6] believes that cavity formation in the first few years of life is not exceptional. The location of the cavities occurring in the first period of childhood is removed from the apices as a rule, in contrast to this region as the most frequent site for cavity formation in adults, and the right lung is most frequently involved. Puerile tuberculosis, in general, is difficult of diagnosis, and is most frequently recognized by the infiltration about the hila, and in the mediastinum, with widening.

At this point in the discussion it would be well to mention secondary infection in its relation to pulmonary tuberculosis. Almost any type of secondary infection, such as streptococcus and staphylococcus pyogenes, diplococcus pneumoniae and influenza bacillus may be superimposed upon a tuberculous infection. The secondary infection may become so extensive that it is difficult, in the latter stages of the disease, to distinguish between the shadows due to the tubercle bacilli and those due to other bacterial agents. The soft, often massive, infiltration observed in the lower two-thirds of the lungs may usually be interpreted as partially secondary and non-tuberculous, except in the miliary type. A notable example of this is fungus infection of the lungs, which is seldom primary, and frequently takes as its host an individual whose resistance is already lowered by tuberculosis, a disease with which it is not only compatible, but evidently friendly. Fungus infection is composed of fairly large irregular soft lesions. It may be

found in the upper thirds of the pulmonary fields. The cavities which are formed by the exudative and caseous process are excellent soil for the implanation of secondary infection, which gives aid in the further destruction of the tissue. This accounts to a large degree for the purulent sputum which is raised.

The next step which is delineated so accurately by roentgen-ray is that of fibrosis—the reparative process. The soft, feathery lesions which we have seen in the beginning soon show evidence of a fibrotic infiltration which is recognized by the harder, more dense, and more clean-cut appearance of the lesions. They are not as hazy and indistinct, and appear more linear in outline. This stage of fibrosis is also a part of the repair of cavities.

The next stage recognized by roentgen-ray is that of calcification, or calcific infiltration, which appears to occur about the fibrous tissue that has already been laid down. This process is seen in the isolated parenchymal lesions, in the glands attacked, and about the walls of cavities. These lesions when well calcified are considered to be healed and to offer little promise of further difficulty. A well fibrosed and calcified tuberculosis may be considered as arrested, depending on the degree, but can not be said to be permanently inactive or healed.

Interlobar pleurisy is commonly seen in pulmonary tuberculosis, although it may be a part of the pathology of other pleuritic affections. It is manifested on the roentgenogram in the majority of cases as a more or less straight line in the horizontal plane at approximately the level of the sixth or seventh thoracic vertebra, although this location is a variable factor. This may show as a wide area due to reflection over the oblique plane, but usually shows as a faint line toward the periphery and becoming thicker toward the hilum, with which it appears to merge. Pleural thickenings due to plastic exudate may result in surface adhesions, in the production of pleural cords between the two layers, longitudinal or horizontal scars, or annular pleural puckerings. During the course of tuberculosis total obliteration of the pleural cavity is not infrequent, which is observed more commonly in the slowly progressive indurative fibroid types.

In addition to the classification of tuberculosis according to pathological phase, Bissell[9] gives a classification on the basis of pathology, which I believe is worth stating in some detail. The factors on which he bases prognosis are, briefly stated, first, the type of infiltration, either discrete or conglommerate; second, the extent of lung involvement; third, the presence of old healed lesions in other parts of the lung; fourth, amount of fibrosis; fifth, the presence of cavities and areas of caseous pneumonia. In type A, so-called concealed tuberculosis, in which the infiltration is peripheral, there is a tendency to unilateral involvement, and in which the areas of involvement are limited, there is a progression from one area to another, shown by observations over periods of years, absence of cavitation, absence of massive or conglommerate infiltration, the prognosis is favorable as to life, but less favorable as to complete recovery of normal health. Type B is more frank tuberculosis with typical clinical history, with marked fibrosis, direct extension to hilus, characteristic distribution in first and second interspaces and localized density over one or both apices. In this type the prognosis is favorable, under proper management. Type C he gives as representing those cases with an early tendency to cavitation, in which there are massive conglommerate shadows in the roentgenogram, indicating caseous pneumonia. This type offers the most unfavorable prognosis. Type D, healed tuberculosis, shows an absence of characteristic parenchymal shadows and Dunham fans; there are areas of calcification, broken lung fields or fibrosis, and evidence of pleuritic "cap" over one or both apices, with localized extension of fibrosis-like shadows into the

lung field. This classification is based on the pathological changes of infiltration, caseation, cavitation, fibrosis, calcification, and thickened pleura.

CONCLUSIONS.

There are many classifications of pulmonary tuberculosis, both clinical and pathological, but the most logical seems to be the one based on pathological stage or phase of the disease; exudative infiltration and caseation, including cavitation; fibrotic infiltration; and calcification.

There is no hard and fast line to be drawn between these stages, as they may exist simultaneously in the same patient.

The roentgen diagnosis of pulmonary tuberculosis depends upon gross pathology.

Secondary infection is commonly associated with pulmonary tuberculous lesions.

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DISCUSSION.

Dr. Henry Boswell (Sanitorium): This was an excellent paper and I am not going to say but very little about it. In discussing the paper with reference to pathology, one of the interesting things the doctor did not bring out in his paper, is the frequent raising of the diaphragm. In the picture it seems the pathology is along the phrenic nerve and either by pressure or irritation produces neuritis or paralysis, and it seems that raising the diaphragm as high as the 4th or 5th rib is effective.

One of the other things the doctor stated in his paper was with reference to areas of mixed infection. Of course, mixed infection diagnosed by roentgen-ray is like a diagnosis of mixed infection by stethoscope. You hardly know what is going to happen until the laboratory man gets through with you. The experiments that are now being made—animal experimentation along this line will perhaps explode the idea of making what we have been calling areas of cloudiness or cotton mottling or whatever you might call it—areas of mixed infection or result of mixed infection. The recent experiments conducted by Dr. Sabine and others is that the dead bacilli in their decomposition then loose a great amount of protein that produces a very strong allergy and in making the roentgenograms the lungs of the various animals find the very same thing that we have been calling tubercular pneumonia, which very frequently will disappear within a few days. This, we believe now, is the thing that we find and call areas of mixed infection. It may involve the whole lobe, or the entire lung. Today we take a roentgenogram and again in ten days or two weeks from today we make a picture of the same patient, and the whole thing has gone down to its original lesion. The wax covering the tubercular bacilli will give an edema of the skin similar to tubercular reaction in adults, and if it produces that in the skin, the dead bacilli in the lung would certainly produce that condition. We call it an infiltration, most of the time we call it tubercular pneumonia.

Another thing that the doctor stated is quite true, that all the cavities found in the lungs are found in the upper two-thirds, beginning in the upper part as a rule, sometimes in the middle part. Another thing, within the past two or three years we have had a marked increase in tuberculosis in young girls, and in those young girls most of the infection is in the base of the lung. I just wanted to bring that out, that we might be on the lookout for cavities in young girls at the base of the lung. I think that is all I have to say.

Dr. Geo. P. Sims (closing): I appreciate very much Dr. Boswell's discussion, and in writing this paper, I tried to bring out points as to the differentiation between the active and non-active cases. Of course, we had no microscope on our roentgen-ray machine, and secondary infection we think does occur, but of course we have no proof for it except on a pathological examination. I think that we can differentiate the active and non-active cases, at least we can strive towards that end.

# INTUSSUSCEPTION, ROENTGENOLOGICALLY CONSIDERED.*

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While intussusception is of relatively common occurrence, the amount of aid in its diagnosis that can be furnished by the roentgenologist is not, we believe, generally appreciated. This is shown by the scarcity of reports of cases diagnosed by roentgenograms and by the slight mention accorded it in text books. The first cases were reported as late as 1913 by Snow and Clinton. Cohen in the American Journal of Diseases of Children, not earlier than 1921, reviewed 41 cases of intussusception, operated upon, and in none of these is there a mention of roentgen-rays being used in the diagnosis.

An extensive study of the use of roentgen-rays in intussusception with a review of the literature was made by Ashbury and may be found in the American Journal of Roentgenology and Radium Therapy in 1927.

Intussusception may occur in any portion of the gastro-intestinal tract, the ileo-caecal region being the most common location. And it is fortunate that this region is readily accessible to roentgen-rays. By use of the opaque enema, a diagnosis can be made easily and quickly without undue delay of surgical intervention. In a majority of cases a barium enema will make the diagnosis earlier than any other means.

The most characteristic finding with the barium enema is a U-shaped filling defect (of the colon) which is apt to shift its position as the enema progresses due to partial reduction of the intussusception. Early in the condition the filling defect will not have the characteristic U-shape, but its situation at the ileo-caecal junction will bring up the thought of intussusception.

Barium enema with filling defect in the hepatic flexure.

In the subacute and chronic cases with partial obstruction the combination of a barium meal and a barium enema should be used. The barium meal will show an apparently markedly narrowed ascending colon. This is, in reality, the ileum invaginated in the colon. When the barium enema is then given the colon itself will fill and the disproportion of the findings by enema and by barium meal will be the clue to the diagnosis.

In suspected cases the barium meal is useful also as it may show obstruction from conditions other than intussusception or from intussusception elsewhere than in the colon.

A recent case at Hotel Dieu is particularly interesting. Baby M. A. P., aged 3 months, was referred by Drs. John Signorelli and Jerome Landry as a suspected case of intussusception. Barium enema showed a characteristic U-shaped defomity

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near the splenic flexure moving, as the enema progressed, to the middle of the transverse colon. Immediate operation with local anesthesia was performed and the intussusception reduced. The day following operation the child showed symptoms of recurrence. A second barium enema was given and a small filling defect at the ileo-caecal junction noted. Surgical intervention was again resorted to, this time under spinal anesthesia, and a beginning intussusception found at the suspected area. Upon reduction of the intussusception an inverted Meckel's diverticulum was seen and excised. (Unfortunately the outcome was fatal).

We felt this case to be particularly interesting because of the diagnosis both of the original and recurring intussusception by barium enemata. It might not be amiss at this point to remind you that recurrences are not uncommon. The finding of a Meckel's divuticulum is also of interest.

It seems advisable here to warn against the apparent complete reduction of the intussuscepted bowel by the barium enema. This should not deter surgical intervention as a small portion of the intussuscepted intestine may be unreduced. Warning, too, must be given that as everywhere else in medicine, negative roentgen-ray findings should not be accepted in the face of definite positive clinical signs, as cases have been operated after a negative report and intussusception found.

DISCUSSION.

Dr. C. P. Rutledge (Shreveport): I have enjoyed Dr. Fortier's paper very much. I didn't know that I was to discuss this until just a few days ago, but fortunately for me and unfortunately for the patients, I have had two of these cases within the last few weeks. Literature does not give us a great amount of information about the use of roentgen-ray in diagnosing intussusception. The first case, a child 6 months of age, was brought in probably six weeks ago. He had a clinical history which I didn't know about at all—a very good case of intussusception, bleeding from the colon, cramping pains in the abdomen, quite a little distention. He was referred to me for roentgen-ray of the colon. I had no clue whatever of the possible finding, and the child was given a cleansing enema before being brought to the roentgen-ray laboratory, though he was not given any oil as we usually do in examinations of the colon. The barium enema passed on to the hepatic flexure very nicely, giving a backing up of the proximal colon. You could see the mass in the intestines recede and pass on up to the hepatic flexure. When it reached there, it stopped, and we were able to get no farther. I made my report as a partial obstruction at the hepatic flexure. I then bave a barium meal, and the only finding in this was a marked ileal stasis which obtained over a period of 24 to 36 hours. In view of the fact that the patient was doing well, it was decided to wait and not intervene surgically. The patient went home, and stayed for some time, probably a week or ten days, had a return of symptoms, came back and had another barium enema, and had this same retention at the hepatic flexure. He got better again after we gave this and went back home and stayed less than 24 hours, came back, was operated upon, and at the time of operation, there was an invagination leading from ileum around to the sigmoid; the intussusception was reduced and the patient so far is apparently well. This was a case, I believe, where we gave the enema and reduced the intussusception, but there was a recurrence, and personally, I believe, that you will have recurrence of many of your intussusceptions.

Another case which has not been proven surgically, was a patient two weeks old, having gaseous distention and nausea, vomiting, and would not retain food at all. Dr. Picard referred this patient; barium enema was given with the same recession apparently of the large intestines up to the hepatic flexure. As soon as it reached the hepatic flexure, the patient was having spontaneous evacuations and we were unable to get the picture. After this enema this patient was able to retain food, felt much better,

stopped vomiting, and I made a barium meal examination. Nothing but ileal-stasis for 24 hours differentiated the condition from the normal course of a barium meal. Quite a bit of the food went right on through the intestines and passed on out. This patient had a very definite mass in the right side, very large at the time of the first examination, but after the evacuation of enema, it reduced at least two-thirds in size. At the present day, it is palpable, but very small, and the patient has no gastric distress, no nausea, no vomiting, and we believe that it is a case of chronic intussusception.

Dr. Levy (New Orleans): This paper of Dr. Fortier's was very interesting. It seems to me that the reason we have not had more roentgenograms in cases of intussusception is because that while they are interesting they are a great many times unnecessary Now it makes a very pretty picture to have intussusception shown, but a child with intussusception is purely a surgical case even though this is an age of diagnosis. Just think of a child with intussusception waiting several days, hours, and weeks, and going home and coming back with intussusception and then being operated on. For one thing, by that time it will have the intussusception habit. It is like folding a sheet of paper and then creasing it again. Intussusception is purely a surgical condition. The child who comes in with a grunt, with a rigid abdomen, with a palpable mass, vomiting, the passing of blood, is a surgical case nearly every time without a roentgenogram.

Dr. Fortier (closing): In the case that I reported, the examination was completed in some 10 or 15 minutes and the patient was practically not delayed on its trip to the operating table. There are cases that are not clean-cut clinically. It is in those cases that we want to help the surgeon. The cases where there is not a complete obstruction, where the intestines are not sufficiently packed to obstruct the flow of intestinal contents. Those are the ones we want to work upon. When you figure that you only delay the operation ten or fifteen minutes, and you have a clean-cut diagnosis, I think it is very much worth while. I was interested in Dr. Rutledge's report and I think both of those cases should be treated surgically. I think he has a chronic intussusception that sooner or later will come to operation.

## THE USE OF WHOLE BLOOD IN PEDIATRIC WORK.*

N. C. WOMACK, M. D.,

JACKSON, MISS.

The use of whole blood as a remedial measure is not new. In 1840[1] Lane saved a boy of nine who was dying as a result of hemophilia, by transfusion of blood.

In 1909[2] Crile's epoch-making work on transfusion started the real interest in the use of whole blood. His method was direct transfusion, suturing the radial artery of the father to the popliteal vein of the child. The child promptly recovered.

In 1913[3] Lindemann published his special technic for transfusion in the infant.

As early as 1915 the text books began to give the technique and indications for transfusion and injection of blood.

The origin of transfusion and injection of blood are unrelated. Transfusion was developed largely for emergencies, such as hemorrhage, hemophilia, etc. The injection of blood was evolved from the use of blood serum, and particularly the use of convalescent serum.

In pediatric work transfusion is limited to skilled operators, trained helpers, and hospital facilities. The indications for injection of whole blood are constantly increasing, and its technic renders it available at any time or place. The equipment is simple, easily obtained and the operation is without danger.

The blood should be citrated, using a solution of sodium citrate, two-tenths of 1 per cent in the proportion of one to ten. For instance, in using 50 c.c. of blood, 5 c.c. of the citrated solution is drawn into a sterile syringe of that size, the plunger is drawn well back a number of times in order to permit the citrate to touch all sides of the barrel of the syringe,

*Read before the Section on Medicine at the Sixty-third Annual Session of the Mississippi State Medical Association, Vicksburg, May 15, 1930.

then the needle is inserted into the vein of the donor and enough blood is withdrawn to make a total of 50 c. c. The syringe is then rotated several times in order to give a thorough admixture of blood and citrate, and then injected either into the tissues, muscles, or peritoneal cavity.

In conditions of hemorrhage, in serious surgical operations, attended by profound shock, or such allied conditions, direct transfusion is the method of choice. This requires typing and cross-matching of blood as well as trained help with hospital facilities.

The use of blood intraperitonealy is considered a transfusion, as the red blood cells of the donor can be determined in the circulation of the recipient within a few hours, unchanged. In these cases the blood should be matched, although in a number of emergency cases I have used it intraperitonealy without matching, and never with untoward results. It is needless to say that where possible, the donor's blood should be tested for chronic infections, lues, etc.

On account of the simplicity of the procedure, the small amount of blood used, and the ease with which the operation is done, the injection can be repeated within eight, twelve, or twenty-four hours, without serious loss of blood to the donor, and at the some time the patient receives the full benefit. I have given as many as seven injections to an arthreptic baby who was vomiting everything taken, and whose stomach was permitted to have a complete rest by reason of the nutrition furnished by the blood.

In hemorrhage of the newborn, particularly intracranial hemorrhage, after spinal puncture, the use of three to five c. c. of blood to each pound of body weight, intramuscularly, or injected into the tissues, and repeated as the symptoms warrant, probably offers the only hope of treatment in these cases.

In acute malnutrition of the newborn, or of the premature, with inability to take or assimilate nourishment, the daily administration of small doses of whole blood, together with a sufficient amount of fluids by hypodermoclysis if necessary, will often tide these cases over until they will be able to handle food in a normal way.

In acute inflammatory, or toxic conditions, in which the baby is overwhelmed by the infection or poisons generated in its own system such as acute acidosis, where vomiting or diarrhea is a constant symptom, the injection of whole blood with sufficient amount of fluids is a life saver.

In erysipelas, the use of whole blood is the only thing I know of worth trying.

In children with definite exposure to measles, the use of whole blood or blood serum so aborts the disease that the disease itself is of no consequence and the complications are nil.

In purpura hemorrhagica in infants and young children, the use of whole blood injected into the tissue or intraperitonealy, is a specific.

In marked secondary anemias, particularly where the hemoglobin is below fifty, two or three intraperitoneal injections at intervals of two or three days, of 150 c. c. of blood, or the frequent injection in the tissues of 40 to 60 c. c. of blood will produce marvelous results.

In the leukemias, the treatment of the condition is practically limited to the use of whole blood.

In the so-called arthreptic cases, the child who cannot take mother's milk or any of the various foods from the fact that they have some constitutional condition that prevents them from digesting and assimilating their food, and constitute the large class of cases that die, more from starvation than anything else, the injection of small amounts of parental blood will tide them over and give them vitality

to last until the doctor can find out the trouble and put them on the proper diet.

Other conditions in which extreme wasting and loss of tissues take place, such as ileo-colitis, surgical empyemas, etc., whole blood is a life saver.

I wish to briefly mention a few cases in which the use of whole blood has been satisfactory.

CASE REPORTS.

Case No. 1. O. B. B., Jr., October 23, 1929.

Family History: Negative.

Personal History: O. B., Jr., 1 year of age, youngest of two children; other child healthy. Normal delivery, breast fed. Has not had toxin-antitoxin for the prevention of diphtheria.

Present illness: Five weeks ago developed erysipelas on one leg. Had 10,000 units of antistreptococcic serum and also 20 c.c. of phylacogen. Then repeated 10,000 units of plain antistreptococcic serum. Eruption was migratory and extended over the entire body. Had broncho-pneumonia on left side, then right side. He was then given antipneumococcic serum. Was in the hospital seventeen days at home during this time. Developed an abscess on one buttock which was opened and drained.

Examination: Temperature 105° by rectum. Feet swollen, edema of tissue over the tibia. Skin red, tense, angry. An eruption which is erysipelatous and of a migratory nature. Complete laboratory test was worked out including undulant fever.

Clinical laboratory: Hemoglobin 45 per cent, total red 2,930,000, total white 12,800, poikilocytes, no normoblasts; small lymph. 25 per cent, large lymph. 5 per cent, trans. 8 per cent, heutrophils 62 per cent; no malarial parasites found. Wassermann test on October 26, 1929, showed 4-plus positive on both antigens. On account of the first test being made when fever was high, the test was made later which confirmed the first. Before he was given his first blood injection he was given 0.3 grams sulpharsphenamin intravenously.

On October 24, 1929, was given 120 c.c. of father's blood intraperitonealy. On October 29, 1929, given a second intraperitoneal injection of 100 c.c. of father's blood. On October 31, 1929, left the hospital. Temperature had been normal two days.

On October 13, 1929, came back to the hospital with erysipelas on right leg, very high fever. Home physician had given an intraperitoneal transfusion. He had developed an abscess as the result of one of his sulpharsphenamine injections. Had erysipelas on both feet, extending over right leg to knee and on right hip up on his side. Gave blood transfusion intraperitonealy. This case was treated locally with icthyol, 20 per cent in coliodin. Recent report is that patient has entirely ecovered.

Case No. 2. V. B., February 24, 1930.

Family History: Cancer in mother's family. Mother and father both practically blind all of life.

Personal History: Eight months of age, only child, normal delivery, breast fed. Had bowel upset when very young. None of the usual diseases of childhood.

Present Illness: Taken sick one week ago with hemorrhage into the tissues.

Examination: A child with well developed purpura hemorrhagica. Large purpuric spots over body.

Clinical Laboratory: Hemoglobin 35 to 40 per cent, coagulation time more than 12 minutes. Total red 2,100,000, total white 26,600, erythrocytes pale, anisocytes, polychromaophilia, poikilocytes, many normablasts. Small lymph. 49 per cent, neutrophils 51 per cent. Blood platelets 13,000 per c.c.; no malarial parasites found. Blood typing showed baby's father's and mother's blood the same type, type two. Gave three injections of whole blood, one on February 24, 1930, 80 c.c. intraperitonealy, and 40 c.c. into the tissue. That night she had a hemorrhage from the toe, lasting for hours. On February 25, 1930 gave 40 c.c. in the tissues, February 27, 1930, gave 40 c.c. in the tissues.

Baby made a prompt recovery, and left the hospital on March 1, 1930.

Case No. 3. C. L. G., Jr., May 14, 1929.

Family History: Negative.

Personal History: C. L., Jr., 2 years and 7 months of age. Oldest of two children, other child healthy. Breast fed, normal delivery. None of the usual diseases of childhood.

Present Illness: Taken sick last Friday night about midnight with pain in the abdomen and frequent bowel movements. Bowels have been moving from 15 to 20 times daily since that time, a good deal of mucus and blood. Has not vomited. Had high fever up to the present time.

Examination: Temperature 101° by rectum. Looks profoundly toxic. Has probably lost 20

per cent of body weight since this illness began. Skin is dry, parched, dehydrated. Gums red. Tonsils not particularly inflamed. Peristalsis constant. No enlargement of the liver, spleen slightly enlarged. Kidney spaces apparently normal. Ear drums negative, reflexes negative.

Clinical Laboratory: Hemoglobin 75 per cent; total white 21,000; one normoblast; small lymphocytes 31 per cent, large mono. 4 per cent, trans. 5 per cent, neutrophils 2 per cent, myelocytes 58 per cent, negative malarial parasites, Wassermann negative, stool examination negative for dysentery. Urine culture negative.

Baby's blood same type as father's and grandfather's.

Diagnosis: Myelogenous leukemia.

Desperately sick baby.

Treatment: 200 c.c. of 5 per cent glucose and freshly distilled water. On June 15, 1929, gave a blood transfusion of 150 c.c. intraperitonealy. On June 16, 1929, blood count showed small lymph, 23 per cent, large mono. 7 per cent, trans. 1 per cent, neutrophils 2 per cent, myelocytes 67 per cent. On June 17, 1929, gave a second blood transfusion, 10 c.c. intraperitonealy. On June 18, 1929, he was given roentgen-ray treatment, 5 MA "distance autotranformer, 27 rheostat 14 KV 1064 mm. aluminum filter, 5 minutes over spleen and long bones."

On June 18, 1929, four days after entering the hospital, he was allowed to go home.

On June 28, 1929, ten days after leaving the hospital, the baby returned and was given another transfusion, 125 c.c. intraperitonealy. The blood count on this day showed total white 9,800, small lymph. 40 per cent, neutrophils 57 per cent, eos. 3 per cent, no myelocytes.

On November 9, 1929, blood showed hemoglobin 65 per cent, total red 4,300,000, total white 10,800, small lymph. 40 per cent, trans. 1 per cent, heutrophils 57 per cent, eos. 2 per cent.

This was undoubtedly a case of myelogenous leukemia. My information is that this case is normal.

I have had one other case of the same diagnosis and similar treatment, but it passed out of my hands and was seen by another physician who examined it after it had had the blood transfusion and the roentgen-ray treatment, and as the blood count was normal, he did not concur in the diagnosis. I have lost sight of this case. Blood transfusion or injection was purely an adjunct in the treatment, and probably the roentgen-ray treatment was more responsible for the result that the blood.

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DISCUSSIONS.

Dr. D. W. Jones (Jackson): As usual, Dr. Womack hits the nail on the head briefly and to the point, in every word and every sentence. We all realize that there are many cases where direct blood transfusion should be used, especially cases of hemorrhage where something must be done at once to save life—in purpura hemorrhagica or such conditions where nothing else can be done, and in extreme vomiting and acidosis where practically nothing can be given by mouth. The difficulty is, of course, in typing the blood of the donor. We used to think we had to get it into the veins, but intraperitonealy is practically without danger, or intramuscularly. As suggested here, in emergencies you take a chance on the donor. Generally the mother's blood is available, and practically always the type will suit the child. I have nothing to add, simply to commend Dr. Womack on his excellent presentation.

Dr. W. H. Frizell (Brookhaven): I would like to ask some questions in regard to one case in which I called the essayist to see a child four months old. The blood was not typed, and we presumed that the father and child were the same. Dr. Womack did an intraperitoneal injection of citrated blood, and I would like to ask what became of that blood. The child had a tumefaction in the rectum, had bronchitis and colitis. I did a colonoscopy on that side and found the bowel adherent. The entire amount of blood was coagulated and did not absorb. In some of these cases where we do not get good results, it may be that there was no absorption of the blood. I do not condemn the use of it, but I would like to know why we do not get results. I do not think it would have done any good in this case because the patient died about sixty hours after transfusion.

Dr. John C. Culley (Oxford): There is just one point I would like to bring out which is of interest in the field of medicine today; this is the question of allergy. We have found oftentimes that the blood will type perfectly, but there is another factor to be considered. If the donor is an asthmatic or has some sensitization, as for instance milk; if the donor has taken milk within a few hours and the recipient is sensitive to sweet milk, there will be a reaction. I think it is well to keep that in mind. It is well to give 1 c. c. very slowly by means of a small hypodermic, then wait a few minutes before transfusion; in that way we will prevent allergic reaction.

Dr. R. C. Basinger (Jackson, Miss.): In the intraperitoneal injection of whole blood we certainly do not feel that the blood requires typing; or, for that matter, in intramuscular injection. We feel that we get much better results intravenously. The problem comes up as to where it should be given. We do not think the fontanelle is the right place—you may have intracranial hemorrhage. We think if you give whole blood to young children it should be given in the scalp vein, and with a very small syringe.

Dr. L. W. Long (Jackson, Miss.): We are slowly but surely improving in the medical field as we go along, and in one thing more than anything else—the practice of preventive medicine. That is true of the health officers as well as ourselves. The use of whole blood, directly or indirectly, is one way that we can really practice preventive medicine and know we are getting results. These cases should not be left until they are moribund. I advocate this procedure early in the disease. It can do no harm, it gives some food, some antibody, some immunization—or any other theory of indirect immunity of the blood. It is usually taken from an adult who has built up a good deal of immunity, and if you put this blood into the vein or intraperitonealy, or intramuscularly, you will give your patient something to fight with. You can use it fifty miles from a railroad if you have a syringe and needle and some iodin, just as well as in the hospital. I have given it and I know. I use a three-way petcock attached to a Luer syringe and needle, and I use the citrate method and have never had any cerebral hemorrhage. The child's head won't move, and you can always tell with this three-way petcock whether you are in the sinus or not. If you have enough experience I do not believe you will get any cerebral hemorrhage. It stands to reason that if there was any danger I would have had some trouble in such a series as I have had—516 in the last three years, all in the fontanelle.

Dr. N. C. Womack, Jackson, Miss. (closing): The ideal method of giving whole blood is intravenous transfusion. That method, however, immediately limits you to hospital facilities and to the surgeon, and what I wanted to get to you was that considering the value—the caloric value, the food value, the vitamin value—of whole blood, I wanted to urge that it be used. You can do it as well as any surgeon, or pediatrician. Dr. Frizell spoke of that baby with congenital atresia, the result of some malformation. It was a beautiful baby; we did not know what the condition was. Rectal examination showed a mass and obstruction. We used whole blood intraperitonealy as a last resort. These cases that are moribund and have a malformation will not take up the blood. It will separate into serum and blood clot, but will not be taken up. That baby was destined to die. That does not argue against the use of this method. But the point is its use in these babies that are starving; save them; make it a procedure. Shoot some fluid into them; they are dying of starvation. Dr. Culley's suggestion is a good one. To be a good doctor you have to think fast; if you overlook allergy you will be foolish. I think the blood should be typed when at all possible. You will find the blood cells in the circulation next morning. There is no harm in typing it, and I think it should be done if possible, but if not practicable give the blood anyway. It is amazing how quickly you will see results— I thought it was Providence, and Providence helps you lots of times. Don't wait until that baby is dead; if the baby is vomiting, do your part, give it now. Get your syringe and some citrate and do it right away, and repeat it often. There are a few cases where it is better to give the blood intramuscularly. Watch your cases closely, or they may go bad; if they get a little bluish or greenish, shoot them full of blood. Keep it up—you will save a lot of them.

## RAYNAUD'S DISEASE: PRESENTATION OF AN EARLY CASE.*

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Raynaud, in 1862, in his monograph on the disease which bears his name, was the first to maintain that gangrene could occur without vascular occlusion. He described the disease as a form of dry gangrene characterized by the double fact that, it is independent of any demonstrable vascular lesion and that it invariably affects symmetrical parts. The pathogenesis of this was referred to by Raynaud as a vaso-motor spasm, inducing transitory ischemia and excessive duration of this being followed by the onset of gangrene.

### ETIOLOGY.

Vaso-motor spasm, irritative and exhaustive processes of the sympathetic nervous system, alterations of the vascular system and endocrine dyscrasias, most commonly of the thyroid, are some of the various factors said to be the cause of Raynaud's disease.

*Read before the Louisiana State Medical Society, Shreveport, April 29-May 1, 1930.

INCIDENCE.

According to Raynaud most of the cases occur between the ages of eighteen and thirty. Morgan found an average of 26.6 years in his 93 cases. Monroe in a series of 198 cases put it 28.9. Cassirer noted that the largest number of cases were either from 21 to 30 years, or 31 to 40 years.

Sex.—Raynaud's disease is more common in females than males. According to most authors, the ratio is about 6 to 4. (In Monroe's cases about 63 per cent were women. Raynaud reported 4/5 of his cases women).

PREDISPOSING FACTORS.

It is generally accepted that the disease shows a predilection for women of the neuropathic type, those emotionally unstable and having hysterical complexes. Frequently there is a history of psychic shock, or prolonged exposure to cold. Other important factors are those of sexual and menstrual anomalies. Among the other predisposing factors that have been mentioned there are anemia, epilepsy, tuberculosis, syphilis, diabetes and leukemia.

PATHOLOGICAL PHYSIOLOGY.

Studies have been made by Mueller, Parrissius and Brown to determine the underlying disturbance in the capillaries and smaller arteries in Raynaud's disease. By microscopic study of the nail folds much instructive data was obtained by them. During the stage of pallor, few capillaries were visible, filling of the capillary loops was incomplete, and the capillaries presented a broken, segmented appearance. No blood was observed passing into the capillary loops from the arterioles. The collecting venules were usually invisible or contained very small amounts of blood. In the stage of cyanosis blood is admitted into the capillaries, both from the arterioles and by back flow from the venules. The blood enters the capillaries in the form of small segments. The capillaries become dilated, an increased number of them being visible. Blood in the capillary loops is stationary or flow occurs only after long intermission.

SYMPTOMATOLOGY.

The disease is characterized by symmetrical arrest of the capillary circulation in the extremities, most commonly in the fingers, sometimes terminating in dry gangrene. The clinical course is usually divided into three stages: (1) that of vasomotor symptoms, (2) that of marked trophic disorders, (3) the period of gangrene.

State of vaso-motor disturbances: In this stage we have two phases of vasomotor disorder, (1) local syncope which is characterized by sudden blanching of the affected extremities, the blanching varying in intensity from cadeveric white to bluish-red. Associated is a reduction of temperature of the part and sensory symptoms, such as hyperesthesia and thermohyperesthesia. These pains may be extremely intense. At times these pains give way to a benumbed state, while in other cases para-esthesia is noted. Rigidity or clumsiness of the affected part, associated with cold perspiration complete the picture of this stage.

Local Asphyxia.—The skin covering the affected part now changes to a purplish, or violacious hue. The adjacent parts present a mottled appearance. A fall of surface temperature is usually noted. Pressure over the affected part demonstrates a sluggish return of blood. A certain degree of swelling is rarely absent. This asphyctic stage may last for minutes, hours, or even days, in rare cases these two stages may occur simultaneously, affecting different parts of the extremities, certain phalanges having a greyish-blue tint, while others adjoining them may appear blanched. Cassirer and Weiss report asphyxia signaling the onset in many cases and its occasional failure to appear in others. Buerger states that asphyxia may proceed syncope, or the latter may be wholly absent.

Stage of Trophic Disorders and Gangrene.—Sensory symptoms, according to Raynaud, are very marked at this stage. Other authors minimize the role of pain. The pain may initiate the attack or may come on during the asphyctic stage. The distribution of the pain is never confined to one nerve, but is diffuse. Small blebs over the affected parts usually signal the onset of gangrene. Although dry gangrene usually occurs, wet gangrene may occasionally develop. In this stage of Raynaud's disease characteristic changes are demonstrable in certain of the bones by roentgen-ray examination. In the hand, bony atrophy, with a disappearance of one or more of the tips of the first phalanges are seen. This is likewise seen in the phalanges. These atrophic changes may extend even as far as the metarcarpals and metatarsals.

Diagnosis: If the typical picture of the Raynaud Syndrome be borne in mind and the phenomena not underated, the differential diagnosis should not be difficult. It is the atypical forms which may present trying problems. Thus the mere presence of cadaveric fingers and toes does not warrant the diagnosis of Raynaud's disease, nor does the single absence of symptoms, even gangrene, disprove the diagnosis.

DIFFERENTIAL DIAGNOSIS FROM OTHER VASOMOTOR AND TROPHIC NEUROSES.

FUNCTIONAL VASOCONSTRICTOR DISTURBANCES.

There are cases of mild spastic disorders of the extremities which are not sufficiently advanced either in symptoms or signs to be classified as Raynaud's disease. Included among these or the minor cases of acrocyanosis. Here the disturbances consist of cold cyanotic, moist hands or feet, without trophic disturbances or pain in the affected parts. Adson speaks of another group where the symptoms are of short duration, occurring during the winter months. In these cases the attacks consist chiefly of pallor, involving one or more digits, symmetrical in distribution, but recovery rapidly induced by exposure to increased temperature. Pain and trophic symptoms are entirely absent.

FUNCTIONAL VASO-DILATOR DISTURBANCES.

In these vaso-motor disturbances the peripheral arteries are dilated. Intermittent attacks of vaso-dilatation of the hands or feet, symmetrical and attended by severe burning of the affected parts. During the attacks the parts are flushed and the veins dilated and throbbing. There is an increased temperature of part. Relief is obtained by immersing part in cold water, and elevation of limb.

ORGANIC DISTURBANCES.

Thrombo-angiitis obliterans and arteriosclerosis with thrombosis constitute the two main groups of occlusive disease of the distal arteries. These cases may present symptoms simulating Raynaud's disease. On account of the diminished blood supply due to partial occlusion from degenerative changes in the vessels and also vaso-spasm induced by small arterial lesions, color changes, mild sensory disturbances and reduction of temperature of the affected parts may be seen, or the terminal picture with gangrene. Rather characteristic in the symptomatology of thrombo-angiitis obliteran is the apparent dependence of the vaso-motor symptoms upon variation in temperature, the chronicity of the manifestations, the absence of pain in some cases and the absence of paroxysmal nature of the attacks so characteristic of Raynaud's Disease. The significant and distinctive feature of organic arterial disease is the obliteration of the usually palpable perepherial arteries, gangrene due to cardiac and arterial disease (embolic or thrombotic gangrene) and atheromatous changes in the arterial tree.

REVIEW OF TREATMENT.

Unfortunately we are greatly handicapped in the way of therapy in this condition since our knowledge of it's etiology is still meager and mostly a matter of speculation.

Most authors are in agreement in that first care should be towards the attainment of an improvement in the neuropathic diathesis. Constructive treatment along general constitutional lines is indicated. Patients should be warned against undue exposure to cold. Application of electricity in the form of galvanic current is recommended by some few writers, but according to most literature this as a whole has been found disappointing. Cushing recommends the use of an elastic bandage to promote passive hyperemia. As early as 1896 Mobius refers to the possibility of the participation of the thyroid gland in the production of Raynaud's Syndrome. Other authors have suggested dyscrasias of the pituitary and adrenal glands. Osborne, Solis-Cohen, Fontains, and others have spoken of the therapeutic values of thyroid and adrenal extract in Raynaud's disease.

Block reviews the relationship of the pituitary gland to Raynaud's Syndrome and reports excellent results in one case from injection of posterior lobe extract.

Reed reports a case that had suffered from childhood with a vaso-motor neurosis, which during the last year manifested itself as a typical Raynaud's disease. At the same time there were symptoms suggesting a supra-renal insufficiency. This patient was greatly benefited by thyroid and adrenal extracts.

Ghelfi reports three cases in which, although there was nothing to suggest syphilis at first, the failure of all ordinary measures in Raynaud's led to the assumption of the syphilitic origin. This was confirmed by a prompt and complete recovery under specific treatment. Hands and Reilly also report three cases of Raynaud's disease in children occurring in one family, that he believed due to syphilis. Both parents and children presented positive Wassermann reactions.

Borak, on the supposition that Raynaud's disease is due to increased activity of certain spinal cord centers, has administered roentgen-ray therapy to those portions of the spinal cord which supply the diseased extremities. He obtained definite therapeutic results in nine cases—six in the second stage and three in the third stage. Surgical treatment of the disease would, naturally, only be considered in the most intractable cases. Two methods of procedure have been carried out.

(1) Leriche, in 1913, described the results he had obtained by removing the periarterial sympathetic fibers around the femoral artery so that vasodilation resulted. Bernheim, in 1925, published a list of cases in which he had performed periarterial sympathectomies and concluded that this operation had much to offer.

(2) Quite recently Davis and Kavanel, also Adson and Brown, have reported cases in which sympathetic ganglionectomies were done, with very promising results. Adson believes that ganglionectomies are indicated in Raynaud's disease and probably in some allied and borderline cases, but warns that it be employed with caution, as the procedure is not a cure-all for all peripheral vascular diseases.

CASE REPORTS.

Mrs. H., a poorly nourished and developed individual, of a highly nervous type, was admitted to hospital complaining of periodic attacks of numbness and burning of feet, with some degree of coldness of fingers and hands.

Family History.—Essentially negative except for neurotic trend in family, which manifested itself in mother and oldest sister.

Present Illness.—The onset of her illness began in November, 1928, as numbness of feet accompanied by mild stinging pains which centered around her toes. She first noticed that her feet became pale and icy cold. Soon following this her feet would change in color to a reddish-blue. At this time patient experienced stinging, burning pains. About one month later her fingers and hands would get cold. Only a slight burning pain accompanied this. Blanching and cyanosis followed the same course as in the feet. In the beginning the asphyxia and cyanosis of the feet with associated pains came at intervals of 3 to 4 days, her attacks later becoming shorter and accompanying pain more severe. At the time of admission the patient was having from one to two

attacks each day, the pain being of such a character that opiates alone relieved her.

Past History.—Patient had measles, pertussis and mumps in early childhood. An appendectomy was done at the age of 25 years. The most noteworthy consideration of her girlhood was that of her menstrual history. The dominating symptom was that of dysmenorrhea. Here the patient recalls vividly the trying and nerve racking menstrual periods, at which time she was compelled to stay in bed from two to three days and take treatment for pain and extreme nervousness. This condition manifested itself at each menstrual period up until one year ago. Since that time patient has never menstruated. Her marital history is essentially negative. She has been pregnant four times and has given birth to four normal children.

Physical Examintion.—At the time of examination the skin was warm, dry and elastic, except over the feet and hands. Here the skin felt cool and clammy. At this time the skin covering feet and hands was of a livid blue. On pressure there was a sluggish return of blood to the affected parts. Elevation of legs caused no blanching of affected parts. Inspection reveals a poorly nourished and developed anemic individual, extremely nervous, lying in bed complaining of burning, stiging pains in both feet.

Head and Neck.—Negative except for catarrhal stomatitis.

Pupils react to light and accommodation.

Chest.—Narrow and symmetrical. No lagging or retraction.

Lungs.—Negative.

Heart.—No enlargement, murmurs or irregularities.

P. R.—88.

B. P.—106/74.

Abdomen.——Negative.

Extremities.—Bones and joints negative, patella reflexes—absent. Small blebs with sero-sanguineous content over dorsum of both feet. During period of asphyxia pulsation was noted in posterior tibial and dorsal pedis arteries. Volume apparently was diminished, the color of the affected parts then being a reddish blue. Temperature lower than rest of body. Slight puffiness was noted in both feet, being most marked in right foot. There was marked sensory disturbances of the feet—hyperesthesia and thermo-hyperesthesia being present, extending above ankle. In the fingers this was not so manifest, a blurring of tactile sense being noted though. During the stage of syncope, hyperesthesia and thermo-hyperesthesia gave way to almost a complete anaesthesia of the affected parts.

Laboratory Findings.—Erythrocytes, 3,900,000; total leukocytes, 5,750; differential count, small lymphocytes, 30 per cent; large lymphocytes, 3 per cent; transitional, 3 per cent; eosiniphiles, 3 per cent; P. neutrophiles, 61 per cent; hemoglobin, 45 per cent; feces examination, negative.

Radiographic Findings. — Radiographic study negative for any organic disease of peripheral arteries.

Diagnosis.—Probable Raynaud's disease.

Capillary Test of Nail Folds.—Findings positive for Raynaud's disease.

Treatment and Progress.—Constructive treatment along general constitutional lines was given, including physiotherapy. Thyroid and adrenal extracts were given in large doses. Patient was definitely improved at end of second week, sensory symptoms being of only a mild nature. Patient was discharged with instructions as to treatment and advised to return in few months for observation. We saw this patient ten months later, nutrition was greatly improved, patient was then free from all subjective symptoms. The skin over both feet however, showed some early hypertrophic changes.

SUMMARY AND CONCLUSION.

1. Raynaud's disease is the outcome of irritative and exhaustive processes of the sympathetic nervous system.

2. It is most commonly found in families of the neuropathic type.

3. Some endocrine dyscrasia, probably thyroid, is a factor in the production of Raynaud's disease.

4. Psychic shock or undue exposure to cold may irritate an attack.

5. Raynaud's disease shows a predilection for women between the ages of twenty-one and thirty years.

6. Some few cases may be benefited by general constructive treatment with glandular therapy.

7. Cases not responding to palliative treatment are greatly benefited by periarterial sympathectomies and systematic ganglionectomies.

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DISCUSSION.

Dr. Marion D. Hargrove (Shreveport): I have listened with a great deal of interest to Dr. Texada's report of this case. Raynaud's disease being one of the rare diseases, we therefore rarely see a case.

In my limited experience, I have had one case which I diagnosed as a probably case of Raynaud's disease. In this patient, which happened to be a man, the condition affected the upper extremities resulting in some necrosis and gangrene of the distal phalanx of one thumb.

As Dr. Texada has said, Reynaud's disease as originally described, was a disease in which they had been unable to find any distinct pathology in the blood vessels themselves. Since that time some writers have claimed to have found some pathology in the peripheral vessels.

I think Raynaud's disease is of interest particularly since we do not know what the cause is. Like quite a few other diseases, it is one to inspire you to work and to tax your imagination as to its cause and treatment. We run across many things about which we have some definite knowledge and then a condition such as Raynaud's disease appears to let us know that we have not explored the entire field of medicine, that there is left quite a bit we can work on and learn something new about.

I think Dr. Texada has covered the field fully and his paper has been most enjoyable.

Dr. H. R. Unsworth (New Orleans): This is not a neurological problem, but I have a dear friend of mine who ran across something accidentally that might be of some held.

Sometimes I think if we understood the emotionalism in the sympathetic nervous system it would solve some of the problems of the obscure etiology of these diseases.

The outstanding, disagreeable feature in Raynaud's disease is the pain. I have a dear friend who has Raynaud's disease to the point where morphine hypodermics are frequently necessary. It was observed that these hypodermics became more necessary at the time of extreme apprehensiveness or at the time of some great shock disagreeable to the patient. Working on that basis, I have suggested the administration of luminal regularly three times a day in quarter of a grain doses to rather tune down the sympathetic nervous system, and not make the response to apprehensiveness and emotional instability so acute. That almost immediately, along with the other measures of prolonged heat, seemed to relieve the patient a great deal. I merely suggest this in the matter of treatment.

Dr. Isidore Cohn (New Orleans): There are just one or two points that I should like to address myself to. One in particular, Dr. Texada said there was atrophy of the first phalanx. I think he meant the terminal phalanx.

I think these bone changes in Raynaud's are often overlooked. If we will in some of these obscure pains in the extremities look for the roentgen-ray manifestations of bone atrophy in the terminal phalanges we will have a bit of information which will help us a great deal.

It is rather important, too, to differentiate the true erythromelagia from Raynaud's disease because in the one instance if you do the sympathectomy in the Weir -Mitchell's disease you will find your patient in a worse fix than he was when you started. I believe periarterial sympathectomy offers us the one means of improving our patient locally more than anything else in Raynaud's disease. Of course, we must address ourselves to the general nervous manifestations which are

probably behind it. We must not think only of the lower extremities. The upper extremities are affected nearly as often as the lower, and when we speak of periarterial sympathectomies we must think of the brachial as well as the femoral arteries. That is one reason I believe the periarterial sympathectomy to be of more general use than the ganglionectomy.

Dr. Blanchard H. Texada (closing): I want to thank Drs. Hargrove, Cohn and Unsworth for their most generous discussion.

It was not because I had seen any great number of these cases that I reported this case. I think I have seen only three, two of which were in the Charity Hospital of New Orleans. I saw the third after I began practicing.

The reason I reported this case was because of its unusual response to medical treatment. Whether or not this patient will continue to improve as she has I am not in a position as yet to say, but considering her progress up to the present time I think there still might be a field for glandular therapy in these early cases.

## CASE REPORTS AND CLINICAL SUGGESTIONS

### TYPES OF PNEUMOCOCCI IN THE FAR SOUTH.*

JULIAN C. BARTON, M. D.,

NEW ORLEANS.

A study of the types of pneumococci in patients with lobar pneumonia entering Charity Hospital was begun early in 1930 and continued through the Spring. Not all cases admitted were studied, though no attempt at selection was made. Only 2 cases of broncho-pneumonia are included.

The mouse method of typing was employed routinely and in most instances cultures from the mouse's blood were made for confirmation. Practically all of these patients received a polyvalent pneumococcus serum without regard to type and there was no necessity for rapid type determination. However, where rapid methods of typing were used, this was found to be much less satisfactory than the mouse method.

Table I.

| | —Cases— | | —Deaths— | | Cases | Deaths |
|---|---|---|---|---|---|---|
| Type | City | Rural | City | Rural | % | % |
| I | 9 | 2 | 0 | 0 | 30 | 0.0 |
| II | 3 | 1 | 0 | 1 | 11 | 25.0 |
| III | 2 | 0 | 1 | 0 | 5 | 50.0 |
| IV | 15 | 3 | 1 | 1 | 49 | 11.0 |
| Cross Agglutination | 2 | 0 | 0 | 0 | 5 | 0.0 |

Total cases, 37; total deaths, 4, or 11 per cent.

*From the Department of Medicine, Tulane University of Louisiana, and the Charity Hospital, New Orleans.

As is seen from the table, the results obtained are in striking contrast to those reported by Cecil[1] or Avery, Chickering, Cole and Dochez[2], though the small number studied will permit of no broad generalizations. Smillie and Caldwell[3], in a study of 58 cases of pneumonia in a rural area of Alabama, found them distributed as follows: type I, 12 per cent; type II, 3 per cent; type III, 2 per cent; type IV, 69 per cent, and 8 cases from which pneumococci were not isolated. In this group the death rate was 10 per cent. The noteworthy point of Smillie and Caldwell's and my group of cases is the great predominance of type IV organisms. The general belief that pneumonia is a somewhat less serious disease and more likely to run an atypical course in the South than in the North is borne out by this finding.

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## THE AMERICAN JOURNAL OF CANCER.

Ordinarily the bringing out of a new journal or a modification of an existing journal in purpose and style does not warrant editorial comment. The appearance of the American Journal of Cancer, a continuation of the Journal of Cancer Research, does, however, justify some statement as to the type of publication and the general character of its format. The reason for this lies in the extremely comprehensiveness of this journal as indicated by the first number of the new volume. There are slightly under 600 pages in the January number of this quarterly, which contains not only a very considerable number of pages of original matter which have to do with cancer in all its aspects, but includes as well nearly 200 pages of obstracts, apparently of practically every paper that concerns cancer which has been published recently. The abstract department of the journal alone would warrant its continuation, but in addition to this feature there are clinical, experimental, statistic and economic papers on this important manifestation of disease, printed on an excellent grade of paper and abundantly illustrated. That such a splendid journal could be published for the small price of the subscription would seem an impossibility were it not for the fact that Mr. Francis P. Garvan and Mr. William W. Buffum of the Chemical Foundation have generously offered financial support for this journal, which will cover the entire field of cancer.

Readers of the New Orleans Medical and Surgical Journal who have the opportunity of looking over the first number of this new work will realize that the laudatory statements made above are fully warranted. It might be added that the surgeon and the laboratory man and he who is interested in the educational or public health aspects of the cancer problem will find that it is impossible for them to do without this new journal, the editor of whom is Dr. Francis Carter Wood, who has under him an editorial board of the most distinguished students of cancer in this country. The names of the editor and of the board definitely indicate that the high standard of the first number of this new journal will continue.

## TUBERCULOSIS AND NEW ORLEANS.

Dr. W. H. Seemann, President of the Tuberculosis and Public Health Association of Louisiana, is to be congratulated upon the splendid stimulating program that was recently presented to the medical profession and laity of New Orleans at the Annual Meeting of the Organization. For two days sessions were held from morning until night, and distinguished speakers, interested in the subject of tuberculosis and public health, presented their point of view concerning the tuberculosis problem. This meeting, which had to do entirely with tuberculosis, will more than repay the activities of the officers of the tuberculosis organization if a greater interest than is now manifested is aroused in the subject of tuberculosis in the South, and specifically and more particularly in New Orleans. The situation as it stands at the present time is one in which the City of New Orleans has no cause to be proud. The death rate in 1929 in this city per 100,000 population was exceeded only by El Paso and San Antonio, both resort cities where many far advanced cases of tuberculosis congregate. The death rate in New Orleans was 142.6 per 100,000. There were only 13 large cities in the country that exceeded a rate of 100. The average death rate in the United States of America in 1928 was 70.1. It will be observed that the New Orleans death rate is more than double that of the country as a whole. Of course such factors as the exaggeration of the death rate due to the local negro population and the increase that comes in any large city as a result of the importation of cases of tuberculosis are both factors which materially raise the death rate. However, the rate is so high that a real problem is presented to public health officers and to those interested in the control of this specific infection. Perhaps the recent meeting will stimulate and will awaken physicians and intelligent laity to the need of eternal vigilance in combating the dreaded disease tuberculosis. Cooperation is necessary. Not only must the public health authorities, doctors, social service workers, and others strive together for the common end of lowering the incident of tuberculosis in this city, but also it would seem that it is absolutely imperative that all organizations engaged in fighting the disease get together for the common purpose of improving conditions as they exist now in the City of New Orleans.

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## VITAMINE FACTORS IN PERNICIOUS ANEMIA.

Undoubted evidence continues to pile up concerning the value of liver extract in the treatment of patients who are suffering with pernicious anemia. Everything that Minot and Murphy claimed in their original paper has been confirmed and reconfirmed all over the civilized world. In the preparation of liver extract Number 343 for the Pernicious Anemia Committee of the Harvard Medical School by Eli Lilly and Company, considerable difficulty has arisen because of the difficulty of standardizing and preparation. Zerfas[1] reports that a reasonably accurate and effective way of determining the potency of a given specimen of liver extract is to note the reaction of the blood of patients suffering with typical pernicious anemia after giving the drug. He says that the number of reticulocytes produced at the peak of the arise, combined with the information relative to the rate of red blood production during the first month of treatment, seems

a useful means of determining the potency of liver fractions. This information indicates definitely and substantiates fully the known fact that liver extract affects profoundly the production of red blood cells. Unfortunately this particular fraction, which is water soluble, controls the formation of red blood corpuscles, but apparently has no affect upon the central nervous system symptoms of pernicious anemia, or if it has an affect it is but a minimal one. Mellanby[2] is dubious concerning the pathogenesis of the blood and the cord disturbances in this disease. He hints that there may be two factors responsible for the two quite distinct pathologic disturbances in the disease. The one of these is cured by the water soluble fraction of liver; the other is apparently relieved by a fat soluble substance, namely, vitamine A, which he has shown when absent from the diet results in production of sub-acute combined sclerosis of the spinal cord. Furthermore, Ungley and Suzman[3] have shown that the administration of whole liver in the diet of patients suffering from pernicious anemia not only improves the blood, but may also alleviate those symptoms which depend upon the spinal cord changes. Unfortunately the cord changes, though relatively rare in pernicious anemia are by no means uncommon. It would seem judging from these several observations that, while the highly concentrated liver preparation now on the market is of inestimable value in the treatment of the blood disturbances and is a satisfactory preparation for most patients, with Addisonion anemia, it might be advisable to offer an alternative liver preparation which would contain not only the water soluble fraction, but also the fat soluble factor. This would seem to be a worthy therapeutic suggestion, provided the technical difficulties in preparing liver extract containing vitamine A are not unsurmountable.

1. Zerfas, L. G.: Arch. Int. Med., 47:135, 1931.

2. Mellanby, Edward: J. A. M. A., 96:325, 1931.

3. Ungley, C. C. and Suzman, M. M.: Brain, 52:271, 1929

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**HOOKWORM IN THE UNITED STATES**—It is theoretically and practically impossible to lay down a detailed plan of work for all health officers today. In general terms I would summarize the subject as follows:

(1) The health officer's chief vantage ground for gaining and distributing information still lies in the schools (including all types), the churches, and in the industries (including the mills, factories, and mines).

(2) His chief ally for microscopic diagnosis is the laboratory of the State board of health; it is diagnosis he wants (not egg counts and counts on soil infection), and the report on the diagnosis should include report on *Ascaris* in case he plans to use carbon tetrachloride.

(3) His chief ally for treatment is the family physician—a greater ally than ever before and one whose field of treatment should be invaded as little as feasible.

(4) In addition to the rural school teacher, whose wonderful support we enjoyed from the beginning of the work, the health officer's chief allies for applying methods of prevention are a sensible sanitary inspector and a sensible county nurse who can talk the same vernacular as the people, who think their thoughts, and who can appreciate the great potentiality of the mother in the home.

(5) It is unnecessary to argue the point before this audience that any plan savoring of routine mass treatment in the public schools, either in getting rid of hookworms or of tonsils, without full consent and cooperation of the parents and the local physicians, will sooner or later lead to serious antagonism between the health officers on the one hand and the parents, physicians, and courts on the other.

(6) I cannot advise the general adoption of the new quasi-mathematical Pythagoristic oological plan, which, from my viewpoint, not only is based on incomplete premises and error in logic, but includes unessentials in administration, and sails too close to the wind in respect to professional ethics and legal responsibility.—Stiles, C. W.: U. S. Public Health Reports, 45:1763, 1930.

# HOSPITAL STAFF TRANSACTIONS

## TRANSACTIONS OF THE CHARITY HOSPITAL SURGICAL STAFF.

The regular monthly meeting of the Surgical Staff was held on the night of February 18. After the usual business, several cases of interest that died during the month of January were brought up for discussion.

The first case was that of a negro female, 54 years of age, who had been ill over a period of three days before admission to the hospital, the chief complaint being pain in the epigastrium, which was rather gradual in onset. An emergency operation was performed and a postoperative diagnosis of acute hemorrhagic pancreatitis was made. The pancrea was incised and drains were left in. However, the patient died five days after being operated upon. In discussing the case, Dr. Gessner explained that in his experiences areas of fat necrosis gave the appearance of whitish spots, especially over the omentum. As a pre-operative test, he named the adrenalin eye test. There was no further discussion of this case.

The second case was that of a negro male, 38 years of age, who had been in a medical ward with a diagnosis of possible amebic dysentery. A mass was discovered in the right lower quadrant following the complaint of acute pain by the patient in this region. A diagnosis of acute appendicitis was made and the patient was operated upon under spinal anesthesia. The colon was found to be rather thick in this region as was also the cecum. A chronically diseased appendix was found and after the usual manner of handling the appendix, the patient was sent back to the ward. However, he continued to have a rather mucous and watery diarrhea, dying eight days after operation. There was a record of one stool examination which showed no parasites. Dr. Rives in discussing this case felt that perhaps other examinations of the stools might have been recorded.

The third case was one in which a diagnosis of secondary syphilis was made as also granuloma inquinale of the perineum. No Donovan bodies were discovered in the perineal lesion. However, the patient was given sodium antimony thioglycollate in doses of 6-8-10-12 and 14c.c. These injections were given over a period of nine days. Almost coincidently, the patient was given two .3 gram and one .6 gram doses of neosalvarsan. The case was presented by Dr. Mattes. In his discussion, he stated that these are desperate cases and should be handled heroically. Dr. Wolfe protested the coincidental giving of 2 metalic therapeutic agents simultaneously. This was concurred in by Dr. W. A. Reed. Dr. Loria stated that a number of cases of granuloma inquinale had been treated in the negro male Surgical Out-Patient Clinic with excellent results and no fatalities, adding that when the patients had syphilis as a complication only one condition was treated at a time. Although the patient may be given iodides while taking the injections for his Donovan body infection.

Three other cases of interest were presented, one in which a colostomy was done in a patient who had extensive carcinomatosis of the sigmoid colon. There was a case of perforated duodenal ulcer coming into the hospital 96 hours after the onset of the symptoms. Dr. Lucien Landry felt that after so long a time these cases should not be operated upon as a rule, but should be left alone just as we do in cases of abdominal gunshot wounds that have been living several days prior to possible surgical intervention. The last case was one which was diagnosed as pernicious vomiting of pregnancy in which a therapeutic abortion was induced. In the discussion which followed, Dr. Mattes said he had seen this patient in consultation and that she had definitely an extensive pyelitis involving one of the kidneys and that a 48 c.c. quantity of purulent material had been removed at one time. He also added that this was a genito-urinary problem and that the additional burden placed by the institution of labor was probably the deciding factor which finally caused this patient's death.

Frank L. Loria, M. D.

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## FRENCH HOSPITAL STAFF MEETING.

A regular meeting of the French Hospital Staff was called to order Friday, January 30, 1931, Dr. Frank Loria presiding in Dr. J. M. Lyons' absence. Those present were: Drs. C. J. Brown, F. Fenno, P. Graffagnino, E. N. Haller, P. H. Jones, T. A. Jung, M. Lescale, J. W. Lindner, J. E. Lindner, F. Loria, D. V. Longo, M. L. Stadiem and E. L. Zander.

The reports of discharges and deaths for the month of December were read by the secretary. A case of acute uremia with chronic nephritis was opened to discussion. This patient was in the hospital only 2½ hours, so that the case was not thoroughly "worked up" and the diagnosis inaccurate. Another death of interest was that of a newborn child. This diagnosis was hemorrhagic disease of the newborn. Dr. Jones said that this disease is characterized by bleeding from the umbilical cord, and often great sheaths of blood are found under the skin and in the brain.

Dr. Loria then presented Dr. P. H. Jones, who spoke on the treatment of ambeiasis. He said that at present there are four drugs that are

widely used in the treatment of amebiasis. These are emetin, ipecac, stovarsol, and yatren, a compound of quinine and iodin. Emetin is not a cure, but it stops the symptoms in five days. Ipecac cures 40 to 50 per cent of cases and is followed by vomiting and purging. Stovarsol cures 60 per cent of cases, but has toxic effects and is a rather severe treatment. Yatren is about 20 per cent better than any other drug, for it controls dysenteric symptoms in two days, removes cysts, and has no toxic effects.

Dr. Loria then thanked Dr. Jones for his interesting talk, and there being no further business the meeting adjourned.

Cuthbert J. Brown, M. D.

## SOUTHERN BAPTIST HOSPITAL.

The regular meeting of the Southern Baptist Hospital was held Tuesday, February 24. The first case was presented by Dr. C. W. Allen, a patient suffering from obstructive jaundice. The case was discussed by Allan Eustis. Carcinoma of the terminal ileum was presented by Dr. T. B. Sellers, and discussed by Doctors S. C. Lyons and E. H. Lawson. Dr. J. H. Smith presented a case of gastric ulcer which was discussed by Drs. Oscar W. Bethea, J. H. Sanders, Emmett Irwin and W. Metz.

The autopsy fiudings of four patients who died in the hospital during the month of January were also discussed.

## VICKSBURG SANITARIUM AND CRAWFORD STREET HOSPITAL STAFF MEETING. FEBRUARY 9, 1931.

Abstract—Tularemia.—Dr. L. J. Clark.

Patient—White, male, aged 31, married, no children; salesman.

Chief Complaint—Fever; chills; anorexia; headache; malaise; loss of weight.

Onset about two months ago. Began having chills and fever, headache and general aching of bones and muscles. Fever was not continuous, but at times would go as high as 102 3/5° F. Was seen by a doctor about ten days later and a complete physical examination did not reveal anything of note except a few scattered rales over the chest with no change in breath sounds or dullness. Roentgen-ray examination of chest showed some calcified nodes of the mediastinal region; roentgen-ray examination of the sinuses showed opaque left sphenoid. The urine showed rare fresh red blood cells. Leukocytes, 9,100; small lymphocytes, 17 per cent; large mononuclears, 13 per cent; polymorph. neutrophiles, 70 per cent. Four days later blood Widal test was negative and leukocyte count showed 5,400 with polymorph. neutrophiles, 81 per cent. Agglutination test for undulant fever showed partial agglutination on titre of 1-60. Blood culture was negative after three weeks of incubation.

Subsequent—In view of the positive roentgen-ray findings of sphenoiditis it was deemed advisable to have treatment by a rhinologist. Some, but only temporary, benefit was experienced.

Four days after the examination, patient began complaining of a sore on his right thumb which he said would not heal. He also complained of a swollen gland in the right axilla. On questioning, he stated that he had received a scratch on his right thumb while hunting about ten days before onset of symptoms, that he had killed a rabbit that was not apparently well, as the rabbit did not seem to want to run, that he had given a part of the rabbit to his cat and that the cat was sick for several days. Blood was submitted for tularemia and a report of complete agglutination in titre of 1 to 810 was received. At this time the temperature was 100° F.; a small red papule was present on the first joint of the right thumb; epitrochlear and one axillary node were enlarged. No other glands were noticeably enlarged.

Patient was given mercurochrome intravenously every fourth day beginning with 5c.c. and gradually increasing. He improved rapidly and has now been free of fever for about two weeks and feeling well.

This case was clinically tularemia of the typhoid type with only very slight glandular involvement and no ulceration. I am unable to say that the mercurochrome was of any definite value, except that the case was not of such a prolonged nature as would ordinarily be expected.

## MISSISSIPPI STATE HOSPITAL FONDREN STAFF MEETING, JANUARY, 1931.

Abstract—Extensive Visceral Syphilis.—R. B. Zeller, M. D.

The patient, a white male, aged 56, was admitted to the hospital March 23, 1930; occupation, farmer.

Present Complaint—Increasing weakness confining him to his bed. Recent loss of weight; memory impairment. He has been bed-ridden for the past five months.

Previous History—Has suffered from gall stone attacks for the past 25 years for which he has used narcotics when he could obtain them. The family history is of no consequence.

Physical Examination.—Nutrition poor, complexion sallow and anemic. Visible cartoid pulso-

tion. Aortitis of mild degree. Blood pressure 143-95. Liver enlarged downward two inches below the free border of the ribs, but not nodulated. Pupils react sluggishly to light. Deep reflexes on the left side exaggerated. Marked speech defect. No use of left leg.

Blood: Wassermann (Kolmer) and Kahn both 4 plus.

Spinal Fluid: Wassermann 4 plus, Globulin plus, cells, 19, Colloidal Gold 111000000.

Stool Examination: Negative.

Urinalysis: Specific gravity 1017. No casts, albumin or sugar.

Roentgen-ray. Did not reveal any stones in the gall bladder.

Subsequent: On July 16 his temperature became irregular, returning to normal each day, but at times going as high as 103° F.

Blood: July 9, hemoglobin 40 per cent; erythrocytes 1,550,000; leukocytes 4,500 with 3 per cent eosinophiles. Erythrocytes showed achromia and some distortion with many immature forms.

On October 10 the abdomen showed the presence of marked ascites. Ten litres of fluid were withdrawn. A specimen was sent to the laboratory.

Ascitic Fluid: Kolmer Wassermann and Kline-Young each 4 plus. Colloidal Gold 0000003555.

On two subsequent occasions the ascitic fluid was sent to the laboratory with identical reports.

The patient died December 16, 1930.

Final Diagnosis.—Paresis; aortitis; myocardial insufficiency; syphilis of the liver.

Treatment.—After irregular fever lasting one month, potassium iodide by mouth, 20 grains daily, was given. Within 24 hours the temperature dropped to normal, where it remained until shortly before death.

Paracentesis abdominis done three times, making the patient more comfortable.

Tryparsamide, 0.6 gram to 1.2 gram given at weekly intervals until four injections had been given. Due to the fact that patient suffered from epileptoid seizures following these injections it was necessary to discontinue them.

Raw liver was used for patient's anaemia with a raise in the erythrocytes from 1,550,000 to 2,185,000 within one week. Further use of the liver failed to benefit the patient. It was given, one-half pound daily.

Comment.—This patient's life was doubtless prolonged several months by the treatment given, although it had no lasting effect. It came many years too late. All of the body fluids tested gave a positive Wassermann reaction. These were the blood, spinal fluid and ascitic fluid.

## ANNUAL STAFF MEETING OF OUR LADY OF THE LAKE SANITARIUM.

The annual Staff Meeting of Our Lady of the Lake Sanitarium was held at the Sanitarium on January 28, 1931. After the dinner at 6:30 p. m. the meeting was called to order by the retiring Chief of Staff Dr. T. S. Jones. The regular routine of business was then gone through and the following members were appointed: Dr. Guy Riche, Chief of Staff; Dr. R. C. Kemp, Vice-Chief of Staff; Dr. E. O. Trahan, Secretary; Members of the Executive Committee, Drs. W. K. Irwin, Cevil Lorio, Jeff McHugh, and L. F. Lorio.

## CLINICO-PATHOLOGICAL CONFERENCE AT OUR LADY OF THE LAKE SANITARIUM, BATON ROUGE, LA.

A Clinico-Pathological Conference was held at Our Lady of the Lake Sanitarium on February 4, 1931. The following members of the Staff were present: Drs. W. R. Eidson, S. J. Goldfain, U. S. Hargrove, W. K. Irwin, T. S. Jones, R. C. Kemp, J. E. Lawton, T. J. McHugh, R. C. McMahon, H. G. Morris, H. T. Nicolle, H. G. Riche, J. J. Roberts, E. O. Trahan, C. A. Weiss, and L. J. Williams. The meeting was presided over by Dr. Riche.

The following cases were discussed:

Case No. 1.—Carcinoma of the Lung, primary, Dr. H. T. Nicolle.

Case No. 2.—Carcinoma of the Lower Lip, Dr. R. C. Kemp.

Case No. 3.—Myomata of the Uterus, Dr. Rhett McMahon.

Case No. 4.—Agranulocytosis with report on three cases, paper by Drs. H. T. Nicolle, T. C. Paulsen and C. A. Weiss.

The following are the abstracts of the cases with the exception of case four. This paper has been sent to the Journal for publication. All cases caused a large amount of discussion.

Primary Carcinoma of the Lung. This tissue was kindly sent to us by Dr. Geo. F. Carroll, of Biloxi, Miss:

Synopsis of history: Patient J. P. white male, aged 51 years. Had influenza two years ago which left him with chronic bronchitis and cough, with negative sputum, enlarged liver, loss of appetite

and weight. Percussion revealed dullness over greater portion of the lung involved. Roentgen-ray showed a mass over hilum which has enlarged considerably during the past year, and also enlarged mediastinal glands. A pre-mortem diagnosis of neoplasm of the lung was made.

Tissue Examination: Two pieces of the lung were 6.5x5x1.5 and 6x4.5x2. The lung is mottled black, gray and white. The black areas can be traced for a considerable distance both macroscopically and microscopically. This follows the bronchi and is composed of a fine deposit of small black granules around and in the bronchi. The white granular areas are rather well defined and range in size from 2.5x3.5 centimeters to very small areas measuring less than one millimeter in diameter. In some places they are hard, while in others they are rather friable. The bronchi are very prominent. The pleura is thick and white.

On microscopial examination the tissue is composed of rapidly proliferating epithelial cells arranged in strands and in most of the cases these strands surround and follow the bronchial tree. There is a large amount of new connective tissue. In the center of the masses between the bronchial proliferations the tissue has undergone necrosis, and is at present composed of debri from broken down cells, a few red and white blood cells. One of the bronchi near the hilum shows a peculiar papillomatous proliferation of the connective tissue. This is covered over with proliferating epithelial cells. Some of the small areas are rather suggestive of tubercles but several mounts have been searched and no acid fast bacilli have been found.

The pleura shows an old inflammatory condition which has undergone a fibroid organization. It is difficult to make out the exact place where the pleura stops and the lung begins.

Diagnosis: Carcinoma of lung, which probably began in mediastinum.

Mr. J. C. C. Out patient. White male, aged 45, operated at the doctor's office.

Chief Complaint: Patient developed a small ulcer on the lower lip, right side about six weeks ago. Since that time it has been gradually increasing in size.

Past history and family history irrelevant.

Physicial examination showed an ulcer of the lower lip about one-half centimeter in diameter. This was on a rather hard base. None of the glands under the lower jaw were felt.

Operation: Under local anesthesia a large wedge-shaped piece of tissue was removed, including considerable flesh beyond the tumor. This included the skin, some muscle and the mucous membrane. The edges were approximated with sutures and primary union was obtained. A dose of radium was applied to the area.

Report of Tissue: (12/12/30.) Tissue consists of a small ulcerated, hard, area from the lower lip surrounded by apparently normal tissue which includes skin, lip, mucosa and muscle. The tissue measures 2.5 x 2x1.5 cm.

Microscopical: Tissue shows proliferation of the epithelium apparently beginning in the rete malpigii of the mucous membrane of the lip. This becomes quite thick in the central portion of the tumor and the strands of epithelial cells extend into the subcucous tissue. There is only one area which shows epithelial perle formation.

Diagnosis: Carcinoma, squamous cell type, of lower lip.

Mamie McK. Colored female, age 33. Admitted 12/4/30. Discharged 12-16-30.

Chief Complaint: Patient has been having trouble with menstruation for the past year and a continual dull pain in the left lower quadrant.

Past History: Unimportant. Menstrual history: Began at the age of 14. She has been regular until about a year ago when she began to be very irregular and to have a profuse flow. She has no children.

Operation: (12/5/30.) Finding gross: Multiple uterine myomata varying in size from an orange to a pea. Numerous adhesions. Appendix not removed on account of duration of operation. What was done: Through a midline incision several fibroids were enucleated then the remaining ones removed "en masse" with the body of the uterus.

Post-operative course uneventful.

Laboratory Examinations: Urine negative except for a faint trace of albumen. Blood: WBC 7400; L 29; M 11; P 54; E 5; B 1.

Tissue Examination: Tissue is composed of thirteen fibroids varying in size from 1.5 x .75 x 1 to 6 x 6 x 5. Several are free while others are still attached to the uterus. The uterus measures 4 x 6 x 3. The fibroids are sub-peritoneal, intramural and a few small ones are sub-mucous.

On section they are white and show the characteristic protrusion and whirls.

The microscopial examination shows the tumors to be composed mostly of smooth muscle fibres with some connective tissue. The uterine mucosa is fairly normal.

Diagnosis: Myomata of the uterus.

# TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR.

March 2.—Eye, Ear, Nose and Throat Hospital Staff, 8 P. M.

March 6.—Pathological Conference, Hotel Dieu, 11 to 12 A. M.

March 6.—Physiology Seminar, Tulane Medical School, 5 P. M.

March 9.—ORLEANS PARISH MEDICAL SOCIETY, 8 P. M.

March 11.—Touro Infirmary Staff, 8 P. M.

March 13.—Pathological Conference, Hotel Dieu, 11 to 12 A. M.

March 13.—Physiology Seminar, Tulane Medical School, 5 P. M.

March 13.—French Hospital Staff, 8 P. M.

March 17.—I. C. R. R. Hospital, 12 Noon.

March 17.—Baptist Hospital Staff, 8 P. M.

March 17.—Charity Hospital Medical Staff, 8 P. M.

March 18.—Charity Hospital Surgical Staff, 8 P. M.

March 19.—Eye, Ear, Nose and Throat Club, 8 P. M.

March 19.—New Orleans Hospital Council, 2023 Milan Street, 7:30 P. M.

March 20.—Pathological Conference, Hotel Dieu, 11 to 12 A. M.

March 20.—Physiology Seminar, Tulane Medical School, 5 P. M.

March 20.—Mercy Hospital Staff, 8 P. M.

March 23.—ORLEANS PARISH MEDICAL SOCIETY, 8 P. M.

March 27.—Pathological Conference, Hotel Dieu, 11 to 12 A. M.

March 27.—Physiology Seminar, Tulane Medical School, 5 P. M.

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During the month of February, besides the regular meeting of the Board of Directors, the Society held joint meeting with the New Orleans Gynecological and Obstetrical Society and a joint clinical meeting at the United States Marine Hospital.

Dr. Emile Novak, Associate in Clinical Gynecology of Johns Hopkins Medical School, was the guest at the meeting of the New Orleans Gynecological and Obstetrical Society. This meeting was very well attended.

The clinical meeting at the United States Marine Hospital was also very well attended.

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The President has appointed the following Committees to serve for the year 1931:

Judiciary Committee—Dr. Frank J. Chalaron, Chairman; Drs. Roy B. Harrison, S. Hobson, H. Vernon Sims and Solon G. Wilson.

State Medicine & Legislation Committee—Dr. Foster M. Johns, Chairman; Drs. H. E. Bernadas, H. B. Gessner, L. A. Meraux and Arthur Vidrine.

Scientific Essays Committee—Dr. Robert A. Strong, Chairman; Drs. J. M. Bamber, M. P. Boebinger, Chaillé Jamison and H. W. E. Walther.

Library Committee—Dr. Daniel N. Silverman, Chairman; Drs. F. L. Fenno, John A. Lanford, Shirley C. Lyons and Robert A. Strong.

Condolence Committee—Dr. I. I. Lemann, Chairman; Drs. Elizabeth Bass, R. H. Fisher, I. M. Gage and Adolph Jacobs.

Publicity Committee—Dr. Chaillé Jamison, Chairman; Drs. Maurice J. Gelpi and M. T. Van Studdiford.

Auditing Committee—Dr. J. T. Nix, Chairman; Drs. H. B. Alsobrook, Jules E. Dupuy, E. L. Leckert and Marcy J. Lyons.

Hospital Abuse Committee—Dr. A. E. Fossier, Chairman; Drs. L. A. Fortier, Val H. Fuchs, J. Birney Guthrie, H. W. Kostmayer, Adolph Jacobs and R. H. Potts.

President's Report Committee—Dr. Leon J. Menville, Chairman; Drs. J. H. Musser and Walter J. Otis.

Secretary's Report Committee—Dr. J. E. Landry, Chairman; Drs. P. H. Jones, Jr., and J. T. Nix.

Treasurer's Report Committee—Dr. Lucien A. LeDoux, Chairman; Drs. G. B. Collier and E. H. Lawson.

Librarian's Report Committee—Dr. O. C. Cassegrain, Chairman; Drs. G. C. Anderson and Chas. L. Cox.

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Dr. Frederick L. Fenno has been appointed Chairman of the Committee on Arrangements for the coming meeting of the Southern Medical Association in November.

Mr. C. P. Loranz, Secretary-Manager of the Southern Medical Association, came to New Orleans during this month to investigate the facilities for the meeting.

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The Committee of Arrangements for the coming meeting of the Louisiana State Medical Society has been working hard on the details for entertaining the visiting members and guests.

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## TREASURER'S REPORT

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| Actual Book Balance 12/31/30 | $2,338.28 |
| Receipts | 4,149.61 |
| | $6,487.89 |
| Expenditures | 5,154.27 |
| Actual Book Balance 1/28/31 | $1,333.62 |

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## LIBRARIAN'S REPORT

The process of settling into our new quarters has made great strides during January. The duplicate collection has been moved and arranged and the library staff has kept up with reference questions as they have come in.

Ninety-three books have been added to the library. Of these 63 were received by binding and 30 from the New Orleans Medical and Surgical Journal. New titles are listed below.

### NEW BOOKS

Bell—Textbook of Pathology. 1930.

Andrews—Diseases of the Skin. 1930.

Brown—Intestinal Tuberculosis. 1930.

Curtis—Textbook of Gynecology. 1930.

Smyth—Handbook of Pediatric Procedure. 1930.

Warren—Pathology of Diabetes Mellitus. 1930.

Bridges—Psychology Normal and Abnormal. 1930.

Lust—Treatment of Children's Diseases. 1930.

Brothers—Medical Jurisprudence. 1930.

Lyle—Manual of Physiology. 1930.

O'Donovan—The Hair. 1930.

Strong—African Republic of Liberia, 2v. 1930.

Laubry—Syndromes d'aortite posterieure. 1925.

Gibson—Mycoses of the Spleen. 1930.

Physicians Hospital of Blattsburgh—Med. & Surgical Yearbook. 1930.

Putti—Historic Artificial Limbs. 1930.

Van Slyke—Dierent Types of Bright's Disease. 1930.

Warren—Handbook of Anatomy. 1930.

Voltz—Dosage tables for Roentgen Therapy. 1930.

Fraser—Trauma, Disease, Compensation. 1930.

Davies—Surgery of the Lungs and Pleura. 1930.

Osler—Principles and Practice of Medicine. 1930.

Harvey Lectures, 1928-29. 1930.

May—Diseases of the Eye. 1930.

Blanton—Normal Physical Signs. 1930.

Hare—Practical Therapeutics. 1930.

Rose—Physical Diagnosis. 1930.

Wilder—Prime for Diabetic Patients. 1930.

Thorington—Refraction of the Human Eye. 1930.

H. THEODORE SIMON, M. D.,
Secretary.

# LOUISIANA STATE MEDICAL SOCIETY NEWS

*H. Theodore Simon, M. D., Associate Editor.*

## COME TO THE ANNUAL MEETING ! !

"The night shall be filled with music,
And the cares that infest the day,
Shall fold their tents like the Arabs,
And silently steal away."

At the new Tulane Medical School Building, April 13, 14, 15 and 16, 1931, the next meeting of the Louisiana State Medical Society. You'd forgotten all about it. No? Excuse me. That's right, you were at the meeting last year. Never have missed a meeting. Neither have I. This year, however, like the new autos, it's going to be bigger and better! Foster Johns says we will have a top notch scientific program, perfect entertainment, clinics, hotel headquarters near the meeting place, a lot of good fellowship and good cheer.

We will have a new chef for the Entertainment Committee, Jules Dupuy, a pupil of our old chef Paul Gelpi. A pupil, but what a pupil. Whom did you say, was at the head of the Convention Clinics? Yes, that's right, Urban Maes. That's that. Convention Locations, we dug him out of the City Council. That's it, Frank Gomila. Incidentally wire Pete Gardiner for your hotel accommodations, he's the man to make you comfortable. Val Fuchs says if you forget your golf club you can use his. The fellow who just rushed by in a hurry was Leon Menville. He's getting his scientific exhibit in shape. Write to him.

At the registration desk you'll find smiling Walter, yes, Walter Otis. He says Frank Loria on the Transportation Committee has the hardest job. I didn't want to mention Fenno, Van Studdiford and Reed because they're always talking about finances, badges and decorations. You'd think they were the general factotums.

Now we come to the real substance of the meeting, our wives and our sweethearts. Boy! we're there. Mrs. Joseph Hume and the Ladies of the Louisiana State Medical Society Auxiliary will take charge of them. Teas, musical programs, dance, golf, drive through French Quarters, movies, coffee at French Market, everything but the duels, which went with the coffee.

Will we have a big meeting? Ask Tim Talbot. He guarantees everything, even the weather. He guarantees one of the finest scientific programs possible. He casually mentioned to me as being present, Dr. C. F. Dixon from the Mayo Clinic, Dr. Isham Kimbell from Alexandria, and Dr. Felix J. Underwood from Jackson, Miss., and—well, read the program yourself. I have to finish this for the Journal "toot sweet." That's what Tim told me to do.

"The night shall be filled with music,
But papers shall rule the day,
On Surgery, Gynecology and Obstetrics,
And Medicine all the way.

Dr. H. E. Bernadas,
Chairman, Publicity Committee.

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The following Parish Medical Societies have elected officers for 1931:

Ascension Parish: President, Dr. H. A. Folse, Donaldsonville; Vice-President, Dr. C. D. Simmons, Prairieville; Secretary-Treasurer, Dr. D. C. Brumfield, Darrow; Delegate, Dr. D. T. Martin, Donaldsonville; Alternate, Dr. T. H. Hanson, Donaldsonville.

Beauregard Parish: President, Dr. Thos. A. Guillory, Merryville; Vice-President, Dr. J. D. Frazar, DeRidder; Secretary-Treasurer, Dr. S. O. Turner, DeRidder; Delegate, Dr. T. R. Sartor, DeRidder.

Morehouse Parish: President, Dr. R. B. Leavel, Bastrop; Vice-President, Dr. E. L. Miller, Bonita; Secretary-Treasurer, Dr. Smith I. Sims, Bastrop; Delegate, Dr. O. M. Patterson, Bastrop.

Avoyelles Parish: President, Dr. R. G. Ducote, Bordelonville; Vice-President, Dr. H. C. Jones, Bunkie; Secretary-Treasurer, Dr. S. J. Couvillon, Moreauville; Delegate, Dr. S. DeNux, Marksville; Alternate, Dr. K. A. Roy, Mansura.

St. Landry Parish: President, Dr. L. J. Bienville, Opelousas; Vice-President, Dr. J. N. Brown, Washington; Secretary-Treasurer, Dr. W. R. Lastrapes, Opelousas; Delegates: Dr. F. J. Mayer and Dr. Geo. R. Beridon, both of Opelousas;

Alternates, Dr. Gordon Morgan, Melville, and Dr. E. T. Lafleur, Opelousas.

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## EAST AND WEST FELICIANA BI-PARISH MEDICAL SOCIETY.

The Bi-Parish Medical Society met with Dr. Glen J. Smith and staff in the East Louisiana State Hospital. An excellent banquet was served by the hospital. Dr. John G. Pratt of New Orleans read an excellent paper on "Some minor diseases of the lower urinary tract in the female." Dr. S. S. Miller read a reprint on "Not flesh and blood and bone alone."

Drs. E. D. Martin, J. G. Pratt, R. J. Fields and S. E. Fields were elected honorary members of our Society.

E. M. Toler, Secretary.

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## FRANKLIN PARISH MEDICAL SOCIETY.

A regular meeting of the Franklin Parish Medical Society was held in Winnsboro, La., December 31.

Round table talks were indulged in by most of the members present. Meeting was called to order by President J. D. Rogers.

Dr. Applewhite was admitted for membership.

Motion by Dr. J. D. Rogers that a committee of three be appointed by the chair to pass on qualifications of an applicant before being admitted into this society was passed.

Drs. R. E. Segrest, A. J. Reynolds and W. H. Mecom were appointed as the committee.

Election of officers:

Dr. A. J. Reynolds, President.

Dr. R. L. Segrest, Vice-President.

Dr. R. E. King, Treasurer.

Dr. R. L. Segrest was appointed as delegate to the state meeting. Dr. J. D. Rogers, Alternate.

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## A COOPERATIVE CLINIC TOUR OF EUROPE.

The Journal has been notified that there will be conducted under the cooperative auspices of the State Medical Journals in a large number of States a tour of Europe, which will last from the twelfth of June when the ship will be boarded at Montreal until the eighth of August when the tourists are due to arrive at this same city. The trip will be under the personal leadership of Dr. Frederick C. Warnshuis, Speaker of the House of Delegates of the American Medical Association, and the business management will be conducted by the Travel Guild, Incorporated. The tourists will arrive in London the twenty-first of June and spend one week there, at which time clinics will be held for them at St. Bartholomew's, Guy's Hospital, London City Hospital, and other hospitals. From there they will travel to the Hague, spending a day there in sightseeing and visiting Dr. Schumaker's famous clinic. Arriving at Amsterdam the next day excursions will be arranged to the Isle of Marken, to Volendam and similar Dutch villages. Clinics will be held probably in the Binnen-Kranken Haus. Hence the trip takes the travelers to Berlin, where four days will be spent and where again some of the most famous clinics in Europe will be visited. Leipzig is next on the list of cities to be visited, followed by Dresden and Prague. Vienna will be visited from July 11 to July 14, where arrangements have been made to hold a series of interesting clinics under the auspices of the American Medical Association at Vienna. Munich, Zurich, Lucerne and Berne then follow in order. All of these cities are well known medically; some of the great European clinics are established in them. Paris will be visited for a week, and on July 31 the traveling medical men will start for the United States.

Arrangements for this trip sound most attractive. Certainly the most outstanding medical centers of Europe will be visited, and the travelers have an opportunity as well of seeing these great European capitols. The price of the trip is slightly under $900.00, and includes all expenses except a few minor ones such as tips on the boat. Any information relative to the trip may be obtained by writing to the General-Manager of the New Orleans Medical and Surgical Journal. Illustrated booklets have been prepared by the Traveling Guild which will indicate definitely just what will be seen in the various towns visited.

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## THE HEALTH OF LOUISIANA.

From time to time the office of the Journal receives the morbidity weekly report of the State of Louisiana. This is published by the United

States Public Health Service, with the cooperation of Dr. J. A. O'Hara of the State Board of Health of Louisiana. The report for the week ending February 7, 1931, shows that in the State of Louisiana 220 cases of influenza were reported, 80 cases of pneumonia, 82 cases of syphilis, 15 of typhoid fever, 37 of diphtheria, 121 cases of hookworm and 11 cases of pellegra. There were 27 patients reported suffering from pulmonary tuberculosis and 5 from whooping cough. Twenty-four were reported as having scarlet fever. These figures give us an idea of the frequency of the various reportable diseases in the state. It might be mentioned that smallpox was reported in the following parishes: Caddo 1, Claiborne 1, Jefferson 1, Lincoln 1, Natchitoches 1, Orleans 4, Richland 1. Natchitoches and Vermilion each reported one case of poliomyelitis. Epidomic cerebrospinal meningitis was reported, one case from Madison and one from Orleans. Of the 15 cases of typhoid fever that have been reported, 5 came from Orleans, 3 from Avoyelles, 1 from Natchitoches, 1 from Vermilion, 1 from Catahoula, 1 from East Baton Rouge, and 1 from Tangipahoa.

## WEEKLY HEALTH INDEX OF NEW ORLEANS.

For the week ending January 24, 1931, the death rate in the City of New Orleans was 20.7, as a result of the death of 102 white individuals and 84 colored. Fourteen of these deaths were in children under one year of age. The corresponding week of 1930 the death rate was 21.7. For the week ending January 31, the Bureau of Census of the Department of Vital Statistics reports that there were 195 deaths in the City, 133 of which were among the white population, giving a death rate of 21.7, as contrasted with a death rate of 22. in the corresponding week of 1930. During the week of February 17 there was some decrease in the number of deaths occurring in the City. There were 182 demises, 100 of which were among the white population. There were 24 deaths in children under one year of age, the infant mortality among the whites being 50, and among the colored 196. In the corresponding week of 1930 there were 171 deaths, giving a death rate of 19.4.

The medical faculty and students of Tulane were shocked to hear of the death of Mr. Paul Revere Eckles, a senior medical student of the University. Mr. Eckles was killed while attempting to cross through a moving freight train. His death came as a very great shock to the members of his class, among whom he was considered a beloved class mate, and was keenly felt by the members of the faculty who knew him as a sincere, conscientious, hard working young man.

## UNITED STATES PUBLIC HEALTH SERVICE.

Medical Director L. L. Lumsden has been directed to proceed from New Orleans to Washington and return for conference regarding the study of, and demonstration in, rural sanitation.

Surgeon C. V. Akin has been relieved from duty at New Orleans and assigned to duty at Columbia, South Carolina.

Assistant Surgeon Dana W. Nance has been relieved from duty in New Orleans and assigned to duty at Manila.

## CORRESPONDENCE.

Editor, New Orleans Medical and Surgical Journal.

Dear Doctor:

I hope you will be able to publish the following note in the New Orleans Medical Journal.

Our experiments on normal sleep are being extended to determine the relative merits of various commonly accepted drugless soporifics. We wish to determine in non-pathological instances of moderately poor sleep the value, if any, of the following in inducing sleep and in promoting restful sleep: physical exercise before retiring, a warm drink before retiring, and a neutral bath before retiring.

I should like to have your readers who have ambulatory patients in whom moderate poor sleep is the outstanding complaint write me since the plan of the research will make it possible to cooperate readily.

Data booklets for the patient to keep a record of his sleep will be provided. The booklets are labeled simply "Confidential Sleep Record" and no mention is made on them of this laboratory. A white booklet is used for the normal or control three days, a buff booklet for the three days when a brisk ten-minute walk is taken before retiring, and two other colors for the two other phases of the experiment.

All cooperation will, of course, be acknowledged when the findings are reported to a technical journal. Not more than five minutes should be taken by the patient to fill in a description of his sleep each day.

I shall be glad to receive requests from any of your readers for a set of the data booklets for their personal inspection so they may decide whether or not it will be feasible for some of their ambulatory patients to contribute data.

Sincerely yours,

D. A. Laird, Director,
Psychological Laboratory Colgate University, Colgate University, Hamilton, N. Y.

# MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

*L. S. Lippincott, Editor*

*H. L. Rush, Associate Editor* *D. W. Jones, Associate Editor*

## FROM OUR PRESIDENT

### Councilor Districts

Comparative figures are always interesting, even though it has been said that "comparisons are odious," and with us they give us a fairly good idea as to how effectively the question of organized medicine is being sold in the various parts of the State. Without them we do not know the weak points—where a district contains one or two especially live societies we sometimes get the idea that the whole district is active when such may not be the case.

These are the 1930 membership percentages:

| | | |
|---|---|---|
| 9th District | 77 | per cent |
| 6th District | 75 | " " |
| 3rd District | 72 | " " |
| 8th District | 72 | " " |
| 2nd District | 68 | " " |
| 1st District | 66 | " " |
| 5th District | 65 | " " |
| 7th District | 61 | " " |
| 4th District | 59 | " " |

These figures do not truly reflect the activities of the different Councilors and no such suggestion is intended. A live man may have an unusually stubborn bunch of mavericks in his district and certainly no one can blame the Councilor of the 7th District, who has only been in office about four months, but they do show that conditions in some parts of the State are far from satisfactory. These figures are obtained from the roll of members and the lists of eligible physicians that were checked by the County Secretaries.

E. F. Howard, M. D.

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Mrs. L. L. Polk, President of the Woman's Auxilary of the Mississippi State Medical Association, writes that Dr. L. L. Polk, Vice-President of the Association, is critically ill at the South Mississippi Infirmary, Hattiesburg. Every member of the Association will be sorry to learn of Dr. Polk's condition and wish for him an early recovery.

## EAST MISSISSIPPI MEDICAL SOCIETY

Dr. T. L. Bennett, Meridian, Secretary, East Mississippi Medical Society, reports as follows:

"The East Mississippi Medical Society met in the Lamar Hotel, Meridian, Dec. 11, 1930. The following program was rendered:

1. Head Injuries.—Dr. H. Lowry Rush.
2. Chest Pains.—Dr. I. W. Cooper.
3. The Relation of the Physician and the Health Officer.—Dr. J. T. Googe.

"Officers elected for 1931 were as follows: President: Dr. A. L. Majure, Dixon; Secretary: Dr. T. L. Bennett Meridian; Vice-Presidents: Dr. C. T. Burt, Lauderdale; Dr. T. F. Kilpatrick, Winston; Dr. S. A. Majure, Newton; and Dr. J. S. Hickman, Neshoba. Censors: Dr. R. M. Leigh, Lauderdale; Dr. W. W. Parks, Winston; Dr. M. L. Flynt, Newton; and Dr. W. R. Hand, Neshoba. Delegates: Dr. M. J. L. Hoye, Lauderdale; Dr. E. R. Richardson, Winston; Dr. Z. C. Hagan, Newton; and Dr. J. S. Hickman, Neshoba. Dr. I. W. Cooper was chosen Medico-Legal Adviser.

"Following the meeting a banquet was enjoyed, with Dr. I. W. Cooper serving as toastmaster.

"The next meeting will be held in the Elks' Club, Meridian, Thursday, Feb. 19, at 3 P. M.

"Dr. and Mrs. T. D. Bourdeaux announce the birth of a son, Dec. 12, 1930, to whom they have given the name Ward Clemens Bourdeaux.

"Friends of Dr. T. G. Cleveland are glad to see him out again after being ill for several weeks.

"Dr. Julian T. Bailey and Miss Mary Stella Mitchell were married Jan. 7, 1931, at the home of Professor and Mrs. J. A. Riddell, Meridian.

"We are glad to have with us Dr. O. A. Schmid and family. Dr. Schmid comes to us from East Moline State Hospital, East Moline, Ill., and is now associated with the Staff of the East Mississippi State Hospital.

"It is with deep regret that we report the death of one of our most valued members and associ-

ates, Dr. J. H. Rush, who passed away Jan. 22, 1931, after a brief illness.

"We are glad to announce that Drs. A. C. Bryan and K. T. Klein have assumed charge of the Meridian Sanitarium. This institution in the immediate past, was under the management of the late Dr. S. H. Hairston. It ranked high among the hospitals of the South, and we feel sure that this same high standard will be maintained under this new management.

"Drs. Bryan and Klein are both well known physicians and surgeons, each having been connected with the hospitals here for a number of years. During the world war they both served in the base hospitals to the end. Dr. Bryan has had actual experience in war surgery over seas. Dr. Klein is at present on the surgical staff of Matty Hersee Hospital.

"We predict for them success in this new venture.

"Dr. H. Lowry Rush and Dr. Leslie V. Rush of Meridian, announce the limitation of their practice to surgery and consultations. Rush's Infirmary will continue operation under their direction and management and we predict for them a successful future.

"Dr. K. T. Klein, Meridian, announces to the medical profession that he has limited his practice to general surgery.

"Anderson Infirmary, Meridian, has recently undergone some very marked improvements. A fifteen-room annex, consisting of a dining room, kitchen, diet kitchen and spacious store rooms have been completed; ten bed rooms have been fitted up with the very latest steel furniture. The obstetrical department has been made very complete. The hospital has also been equipped with an electric autoclave, electric elevator and an automatic coal burner has been installed, which is proving highly satisfactory in that it establishes an even temperature day and night.

"Anderson Infirmary has a well organized staff, with meetings the second Friday of each month. The next meeting will be held Friday, Feb. 13, at 6:30 P. M. A very interesting program is being planned. Dr. H. F. Tatum is president of the staff."

## COMMUNICABLE DISEASES

The Bureau of Communicable Diseases of the Mississippi State Board of Health reports for the month of December, 1930, 46 cases of typhoid fever, 30 cases of smallpox, and 134 cases of dipththeria. All preventable diseases. Are your families and patients protected?

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## VIRGINIA McGUIRE MEMORIAL HOSPITAL

The Virginia McGuire Memorial Circle of the King's Daughters' are engaged in a wonderful work of service at this especial period. The hospital owned and operated by them at Rosedale had 108 hospital days for December, 98 of which were charity. This hospital is under the efficient supervision of Mrs. Rosa Belle Shelby with graduate nurse Bertha Middleton as assistant.

The physicans, Drs. Nobles, Patterson, and Austin and the dentist, Dr. Vardamon, are all working for the harmony of the hospital.

The hospital Board of Directors consists of Dean Noel, President; Guerney Gardner, Secretary and Treasurer; Fontain Goza; Walter Sellers, Mrs. C. C. Morris; and Mrs. Rosa Bell Shelby. Mrs. C. B. Allen is President of the King's Daughters' Circle and Mrs. Walter Sellers, Treasurer. The Hospital Board meets regularly twice a month.

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## LEAKE COUNTY MEDICAL SOCIETY.

Dr. W. S. Martin, Carthage, President of the Leake County Medical Society reports that a meeting was held on December 9, with eight members present. Visitors included Drs. Julius Crisler, Jack Barksdale, A. E. Gordin, G. W. F. Rembert, and N. C. Womack, all of Jackson.

A meeting of the society was held on Feb. 2. The President extends a cordial invitation to all members of the Association to attend any of the meetings of this live society.

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## COLUMBIA CLINIC HOSPITAL.

Dr. J. Gould Gardner, Columbia, reports that Dr. George S. Daly, who is associated with the Columbia Clinic Hospital, is in New York where he is making a special study of obstetrics and pediatrics at the New York Lying-In Hospital. Dr. Daly had previously had two years of internship and given special study to these branches of medi-

cine. Fortunately he has a doctor friend in charge at the New York Lying-In Hospital who is making it possible for him not only to study and observe, but to do the actual work for the patients.

Dr. Daly wll return to Columbia Clinic Hospital early in March.

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## TATE COUNTY MEDICAL SOCIETY.

Dr. J. Sidney Eason, Secretary, Tate County Medical Society, writes as follows:

"There is little to report from Tate County, as we have no hospital, clinics, etc., where we would have such cases as mentioned.

"Our Society has not been meeting regularly at all for the past two years. While all of the ten physicians in the county have been members up to Jan. 1, 1931, we have three who have not paid dues for this year. Still hope to get them and make it one hundred per cent. So far as membership goes, therefore one could not be satisfied with such a society, and I have been in favor of joining with other counties so that we can have enough to really make it interesting. But the majority were not in favor of this.

"Officers for 1931: Dr. H. F. Byers, Senatobia, President; Dr. William R. Gilbert, Tyro, Vice-President; Dr. J. Sidney Eason, Coldwater, Secretary-Treasurer; Dr. J. W. Thompson, Independence, Delegate to the Mississippi State Medical Association.

"We have several cases of smallpox in the county, all spread from people not obeying the quarantine, but visiting and spreading it as they went. Have done lots of vaccination and hope that it is checked. The county has also been full of chicken-pox all last fall and winter.

"Mrs. H. L. Murphey, wife of Dr. Murphey of Arkabutla, died at the Baptist Hospital on Feb. 10. Mrs. Murphey had been seriously ill for some weeks.

"Practically all of the doctors of the county reported influenza during the past month, some of it the real old time 'flu,' others mild.

"The writer himself has only been back at work the past month after three months' loss from sickness, operations, etc., but am feeling better than for some years past, and hope to have more and better news at some future date."

## PIKE COUNTY MEDICAL SOCIETY.

Dr. R. H. Brumfield, Secretary, reports that the Pike County Medical Society met in the Palm Room, McColgan Hotel, McComb, Feb. 5, with twelve members present.

Dr. L. W. Brock read a paper "The Treatment of Varicose Ulcers," and Dr. L. D. Dickerson a paper, "The Present and Future of Medical Practice."

Dr. E. H. Hatcher, a graduate of Tulane in the class of 1930, has located in McComb and was elected to membership in the society.

The society held 12 regular meetings during the year of 1930. The attendance percentages of the members, as compiled by Dr. I. E. Stennis, were as follows: Dr. L. W. Brock, President, 100; Dr. D. T. Brock, 50; Dr. R. H. Brumfield, 92; Dr. J. E. Brumfield, 0; Dr. W. M. Biggs, 33; Dr. W. O. Biggs, 50; Dr. H. L. Bauer, 33; Dr. W. F. Cotten, 75; Dr. L. D. Dickerson, 67; Dr. G. S. Daly, 25; Dr. E. B. French, Delegate, 83; Dr. L. L. Greer, 25; Dr. E. M. Givens, 92; Dr. W. C. Hart, 50; Dr. B. J. Hewitt, 92; Dr. T. E. Hewett, 83; Dr. S. Paul Klotz, 75; Dr. W. S. Lampton, 33; Dr. Thomas Purser, 67; Dr. M. D. Ratcliff, 75; Dr. G. W. Robertson, Vice-President, 33; Dr. L. J. Rutledge, 83; Dr. R. F. Payne, 8; Dr. E. R. Gordon, 00; Dr. A. E. Leggett, 00; Dr. I. E. Stennis, Secretary, 100; Dr. J. M. Smith, 33; Dr. C. W. Stewart, 33.

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## CENTRAL MEDICAL SOCIETY.

Dr. W. L. Highes, Jackson, Secretary, reports that at the meeting of the Central Medical Society on Jan. 20, it was decided to make the Edwards Hotel the permanent meeting place of the society and to designate it as the headquarters of the State Association when it meets in Jackson in May. Dr. C. L. Green, President, named the following men as a committee on arrangements for the State Meeting: Reception, Dr. H. F. Garrison; Local arrangements, Dr. A. G. Wilde; Hospitals and Clinics, Dr. Willis Walley; Entertainment, Dr. A. F. Gordin; Finance, Dr. N. C. Womack.

The following scientific program was presented: Dr. Robin Harris presented a case of kerato-conus. Dr. Smythe Howard read a paper on tularemia with case reports; Dr. A. G. Wilde read a paper

on chronic blepharitis of unusual origin with case report.

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BAPTIST HOSPITAL.

At the staff meeting of the Baptist Hospital on Jan. 9, 36 of the 39 members of the staff were present. Dr. Shands gave a resume of the meeting of the Southern Surgical Association and an interesting report of the advances in the treatment of chronic osteomyelitis. Dr. VanNess read a paper on the uses of roentgen-ray in gallbladder disease.

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JACKSON INFIRMARY.

The Staff of the Jackson Infirmary met on Jan. 14, and, following the discussion of several interesting cases, papers were read by Dr. Smythe Howard on tularemia and by Dr. J. W. Barksdale on "Phrenicectomy in Lung Conditions."

During the last few months a very noticeable improvement in these staff meetings has taken place. They are well attended and all cases and new ideas are freely discussed.

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NORTH-EAST MISSISSIPPI MEDICAL SOCIETY.

"We, the Committee on Necrology, beg leave to report:

"Death has removed two of our oldest and most beloved members. Advanced in years, full of honors, loved in their community, they have finished their course and left us the heritage of lives well spent. It would be a labor of love could we review all the qualities of mind and heart, of devotion of duty, of friendship and consideration of their professional associates, of our personal debt to them for inspiration in our lives and conduct.

"As we record their names, we tender on behalf of our society, our sympathy, love and comfort to their families and loved ones.

'The life that counts must toil and fight
Must hate the wrong and love the right,
The life that counts must helpful be
The cares and woes of others see'
"Our comrades have lived the life that counts."

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DR. BOLIVAR R. SMITH.

"Dr. Smith was born in 1851, at Blackland, Prentiss County, Miss. For nearly fifty years he practiced his profession at Burtons, Prentiss County, where he died December 9, 1930.

"He was never married but was noted for his open house hospitality. He was a York and Scottish Rite Mason and a Shriner. For many years he was Master of Robert G. Smith Lodge, at Paden, Miss. This lodge was named after his brother, Dr. Robert G. Smith, who practiced medicine at Burtons several years preceeding Dr. Bolivar's practice.

"Dr. Smith was a landmark in his community, and a man who took a keen interest and an outstanding part in all moral civil and political enterprises of his community and state. He took young physicians in partnership, guided and trained them into larger fields of usefulness—among whom are Drs. McDougal, Norwoof, Green, Hyde and McMillan.

"We miss him."

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DR. RUSSELL McKINLEY.

"Dr. McKinley died at Columbus, Miss., January 4, 1931, age 59 years, after a long illness.

"He was graduated from the University of Alabama, in 1894, and went into Government Yellow Fever work in the Panama Canal Zone for several years thereafter. In June, 1899, he, in partnership with Dr. John E. Davis, founded the first hospital in Columbus. Later he founded the McKinley Sanitarium. He made a specialty of surgery, and was widely and favorably known for his skill, ability and careful attention to his patients.

"He was a World War veteran, having served in Will's Memorial Hospital of Philadelphia, as a bone surgeon.

"He is survived by his widow Mrs. Kate Oliver McKinley, of Columbus, and one daughter, Mrs. George Moore, New Orleans, La.

"Dr. W. A. JOHNS, Corinth.
"Dr. W. C. Walker, Houlka.
"Dr. W. H. ANDERSON, Booneville.
"Committee on Necrology."
—From the Mississippi Doctor.

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TO COUNTY SECRETARIES.

The following letter is being sent to the secretaries of all the county societies. Now how about all the members constituting themselves a staff of reporters to furnish the secretaries with news to send?

"Dear Doctor:

"One of the best ways of building up the Association is by advertising what it is doing. The most valuable work is done in the County Societies.

The best way to tell about that work is through our Medical Journal, which goes to every member.

"Dr. Lippincott has developed the news department of the Journal remarkably, and his success is due to the fact that he has had good support. Without that he cannot get results.

"How about making a resolution to the effect that your Society will be represented in the Journal every month? Make it a rule to send him a letter every thirty days, telling all you can about your Society and about its members. Everybody is interested in what you are doing.

"Yours for a better knowledge of each other.

"E. F. HOWARD, M. D.,
"President."

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## ISSAQUENA-SHARKEY - WARREN COUNTIES MEDICAL SOCIETY.

A regular monthly meeting of the Issaquena-Sharkey-Warren- Counties Medical Society was held at the Y. M. C. A., Vicksburg, on February 10, with 21 in attendance.

A Scientific Program included:

The Carrier and Contact Problem.—Dr. F. M. Smith.

Discussed by Drs. G. W. Gaines, Tallulah, and E. F. Howard Vicksburg. Dr. Smith closed.

Why Examine the Urine?—Dr. L. S. Lippincott.

Discussed by Drs. A. Street Vicksburg; H. H. Haralson Vicksburg; E. F. Howard, Vicksburg; R. H. Foster, Anguilla, and H. S. Goodman Cary. Dr. Lippincott closed.

Dr. Edley H. Jones, Vicksburg, was elected delegate of Warren County to the Mississippi State Medical Association.

It was unanimously voted to continue the custom inaugurated last year of holding two joint meetings with the Fifth District Medical Society of Louisiana, one to be held in Monroe, Louisiana, in June, the Fifth District Medical Society to furnish the program, and one in Vicksburg, in December, the Issaqueena - Sharkey - Warren Counties Medical Society to furnish the program.

The Society voted to propose two joint meetings with the Central Medical Society during the present year, one to be held in Jackson, and one to be held in Vicksburg.

The next meeting of the Society will be held at Vicksburg on Tuesday, March 10.

## VICKSBURG SANITARIUM.

The regular monthly meeting of the staff of the Vicksburg Sanitarium was held on February 9. After the regular business of the staff, including the reports from the records department and analysis of the work of the hospital, the following special case reports were presented:

1. Duodenal Ulcer.—Dr. A. Street.
2. Increasing Incidence of Duodenal Ulcer in the Colored Race, with Case Report.—Dr. J. A. K. Birchett, Jr.
3. Tularemia.—Dr. L. J. Clark.
4. A Bone Lesion of the Foot.—Dr. C. F. Clayton.

The following interesting radiographic studies were shown: Cholelithiasis; Duodenal Ulcer; Obstructive Lesions of the Stomach: (a) Duodenal Ulcer; (b) Carcinoma; Maxillary sinusitis (two cases); Urinary Calculi; Pulmonary Tuberculosis (two cases); Pneumonia (nine cases).

The next meeting of the staff will be held on Monday, March 9.

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## DEATHS OF PHYSICIANS.

January, 1931.

E. J. Rowe, Hillsboro, apoplexy, January 7, at Hillsboro; born Illinois, March 15, 1861.

J. H. Rush, Meridian, chronic myocarditis, January 22, at Meridian; born Mississippi, September 6, 1868.

C. T. Bell, DeKalb, acute dilatation of heart, January 26, at DeKalb; born Mississippi, 1878.

R. C. Basinger, Jackson, cerebral hemorrhage, January 31, at Jackson; born Ohio, November 3, 1899.

Tillis Gandy, Royce, pneumonia, January 31, at Hattiesburg; born United States, December 26, 1885.

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## WOMEN'S AUXILIARY.

A meeting of the Women's Auxiliary of the Issaquena - Sharkey - Warren Counties Medical Society was held at the Library, Vicksburg, February 17. Officers for the year were elected as follows: President, Mrs. E. F. Howard, Vicksburg; First Vice-President, Mrs. W. C. Pool, Cary; Second Vice-President, Mrs. F. Michael Smith, Vicksburg; Third Vice-President, Mrs. A. Street, Vicksburg; Treasurer, Mrs. P. S. Herring, Vicksburg; Secretary, Mrs. E. H. Jones, Vicksburg.

It was decided to go on with a study of public health activities, using the publication "A Quiz Compend on Public Health Organization and Activities," prepared at the suggestion of Mrs. M. H. Bell, Vicksburg, by Dr. F. M. Smith, and issued by the Mississippi State Board of Health.

# BOOK REVIEWS

*Trauma, Disease, Compensation: A Handbook of Their Medico-Legal Relations:* By A. J. Fraser, M. D. Philadelphia, F. A. Davis Company. 1930. pp. 524.

This volume of forensic material comes to the reviewer's desk from Winnipeg by way of Philadelphia.

It embodies very clearly, concisely and substantially correlated medico-legal data referable to trauma and disease as pertains to medico-legal and compensation remuneration. The subjects are well covered in abstract. The composition is so well paragraphed that those interested may grasp, without much collateral reading, the essential elements of each heading. The period of mediation is given a place in this volume which forensic psychiatrists, contract physicians and those associated with industrial organizations would do well to read. It would assist in aiding them in approaching the results of the alleged injuries, traumas, etc., as given them by clients, litigants and individual claiming illnesses or symptoms following same. This period of mediation is the interim between the alleged injury plus the psychopathological moment when litigation proceedings are instituted.

Many of the cases presenting themselves could be readily adjusted were they handled properly by professional men thoroughly trained in the approach of these, always keeping in mind the composite picture of the situation plus the capacity for work, added to which is the earning capacity.

At the end of each chapter, which are twelve in number, there is a bibliography; an up-to-date glossary is included. Following this is a thoroughly compiled index. The volume should make excellent reading for neuro-psychiatrists and physicians whose duties take them before the courts as witnesses in forensic medical cases.

WALTER J. OTIS, M. D.

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*Medical Jurisprudence*: By Elmer D. Brothers, B. S., LL.B. 3rd Ed. St. Louis, C. V. Mosby Company. 1930. pp. 309.

This is an interesting text on the legal phase of medicine for recommendation to medical students and general practitioners. Before launching into the subject the author devotes several chapters to an explanation of terms pertaining to courts and their procedure. While no effort has been made to exhaust the subject, and technical matters which the author deems useful only to lawyers are not discussed, yet the work is at times verbose, due to an effort to clarify basic fundamental principles at the expense of too frequent repetition of detailed facts. The subject matter has been developed from law texts, encyclopedias, reports and decisions. In footnote references liberal mention is made of authorities corroborating the details discussed and while there are but few quotations from decisions, the author in some cases has used the language of the courts in defining principles. By use of the index and references the text may prove useful not only to a medical but also to a legal practitioner in securing authority on matters he has under advisement. The author has attempted to place himself in the position of the medical practitioner in viewing the subject, but has succeeded only to a fair degree. It would be better if he had cited case reports which might at some time concern any medical practitioner, illustrating the subject matter in the last nine chapters and discussed the same. As a whole the book is clothed in simple language, equally as readily understood by the layman as the medico. Its candidness is refreshing and its type excellent, though a few glaring typographical errors obstruct the reader's eye.

J. W. WILLIAMS, M. D.

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*Tobacco:* By Walter L. Mendenhall, M. D. Cambridge, Harvard Univ. Pr. 1930. pp. 69. (Harvard health talks.)

This little volume is wittily and yet scientifically written. It deals with the use and abuse, the lies and the truth, the effects on mental processes and the opinions of many men of prominence concerning tobacco.

I. L. ROBBINS, M. D.

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*Chronic Arthritis and Rheumatoid Affections, with Recovery Record:* By Bernard Langdon Wyatt. New York, William Wood & Co. 1930. pp. 139.

Because this problem is one of tremendous medical, social and economic importance, it has forced itself and been forced into the limelight of medical attention. This book is one of a large bibliography that is rapidly growing up dealing with this subject. This volume, however, is a most welcome addition for the following reasons. It is well written and simple. It is filled with sound facts and minus all extravagant and fanciful theories. Diagnosis and treatment are most capably, and for a book for the lay public, most comprehensively treated. There is only one fly in the ointment, the author's words in the preface—"It is hoped that the patient as well as the general practitioner will find this book of value." The reviewer objects most strenuously to books written by physicians both for the laity and for the profession. If the author feels that he has

an important lesson to teach the general practitioner, he should write for him only. The policy in question smacks of "a play to the gallery." Otherwise the book is worth while and scholarly and at once stamps the author as an authority on the subject.

I. L. ROBBINS, M. D.

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*Treatise on Orthopedic Surgery:* By Royal Whitman, M. D., M. R. C. S., F. A. C. S. 9th ed. rev. Philadelphia, Lea & Febiger. 1930. pp. 1085.

The last edition of this extremely excellent work has nearly twice as many illustrations as the earliest editions; the last chapter in this edition is called: "Collateral Orthopedic Surgery." It did not appear in the very early editions and when it did come out was called: "Military Orthopedics."

The author states that it has been retained and expanded because it contains material of collateral or incidental interest. It is hard to review work of this kind in a few words. Suffice it to say that it is recognized as a standard text-book and each edition has made it more valuable.

EDWARD S. HATCH, M. D.

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*A Compend on Bacteriology, Including Pathogenic Protozoa:* By Robert L. Pitfield, M. D., and Howard W. Shaffer, M. D. 5th ed. Philadelphia, P. Blakiston's Son & Co., Inc. pp. 317, p. 1.

The popularity of this little compend on bacteriology is proven by the fact that it is now in its fifth edition. Designed to serve the needs of medical students preparing for examination and for the practitioner of medicine who desires to become acquainted with the underlying facts of bacteriology, it excellently answers its avowed purpose. Minute details are necessarily not given, and the principal facts are described concise, pithy paragraphs. The illustrations, for the most part drawn from standard text books, excellently serve their purpose. Dr. Herbert Fox of the Pepper Laboratory of the University of Pennsylvania has written the chapter on filterable viruses. The newer nomenclature of micro organismal forms is included along with the older terminology. It is believed that this volume fully meets the aims of its author.

RIGNEY D'AUNOY, M. D.

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*Laboratory Medicine:* By Daniel Nicholson, M. D. Philadelphia, Lea & Febiger. 1930. pp. 437, p. 1.

The object of this book in the words of its author is "to provide detailed information of the indications, method, and interpretation of useful tests that a medical practitioner should be able to perform." The first few pages briefly state laboratory diagnostic tests that are indicated in various disease condition. There then follows chapters describing methods of examination of blood, exudates, puncture fluids, sputum, cerebro-spinal fluid, gastric and duodenal contents, urine, feces, etc. The final chapter deals with laboratory equipment. On the inside front cover and first fly page, there are tables of important normal standards. The book gives much valuable information for the general practitioner of medicine as well as for the specialist in clinical pathology. Some statements do seem questionable. For instance, on page 114, under the heading "Hodgkins Disease," we read that the disease is "probably caused by the avian tubercle bacillus." This statement certainly must be considered as unjustified in view of our present knowledge. In discussing prophylaxis against scarlet fever on page 195, ricinoleated antigen is listed as of proven value to develop prolonged immunity. This statement is undoubtedly open to question. Neither blastomycosis nor sporotrichosis are mentioned in the discussion of diseases affecting the skin. Agglutination reactions for tularemia and brucellosis are not even dignified by mention. No note is made of the Kahn reaction. However, even in view of the above and many other notable deficiencies, Dr. Nicholson's book contains much of merit and cannot help but be a useful addition to the armamentarium of the practitioner of medicine for whom it is primarily intended.

RIGNEY D'AUNOY, M. D.

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*Seventy Birth Control Clinics:* By Caroline Hadley Robinson, with foreword by Dr. R. L. Dickinson. Williams & Wilkins. 1930. Pp. 351.

This book is divided into two parts. Part one deals with a survey of birth control clinics composing: organization, staff and statistics of seventy clinics; scientific data obtained and suggestions for handling organized birth control as a matter of eugenics; present practice of founding and financing; planning clinics for present and future needs. Part two deals with social function of birth control; laws, customs, effect on quality and quantity of population and finally a discussion of what benefit may be expected from such clinics.

ADOLPH JACOBS, M. D.

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*Diet in Disease:* By George A. Harrop, Jr., M. D. Philadelphia, P. Blakiston's Sons & Co. 1930. Pp. 404.

Although a number of books have appeared in recent years on dietetics, the reviewer considers this book on Diet in Disease to be one of the best that he has had the pleasure of reading. It has

been conveniently divided by the author into three parts. The first part, The Requirements of Nutrition, the second, The Elements of the Diet, and the third, Dietary Treatment of Disease. Part three comprises one-half of the book and is of the greatest interest to the clinician. The first two parts of the book can be recommended to students as the subject is clearly and interestingly presented. The dietary treatment of various diseases is handled concistly and briefly as is possible with clearness, diet lists are numerous and well selected and will be found most helpful. The dietary treatments embody all the most modern ideas of diet in disease.

RANDOLPH LYONS, M. D.

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*Intestinal Tuberculosis:* By Lawrason Brown, M. D. and Homer L. Samson, 2nd. ed. rev. Philadelphia, Lea & Febiger. 1930. Pp. 376.

This edition represents the second publication from observation of the authors at Trudeau Sanitorium. The authors recognized the extreme difficulty that has been experienced by the profession in the diagnosis of early intestinal tuberculosis. The aim of the publication has been a plea for the early diagnosis and an attempt to facilitate this plea. As late as 1909 the diagnosis of intestinal tuberculosis was reluctantly made as it always indicated a grave prognosis. In this edition the methods of examination are described in greater detail than in the former edition and the essentials of the diagnosis summarized in a few pages illustrated by diagrams and references given to plates scattered throughout the text. More emphasis has been placed upon the roentgenological phase of diagnosis. After a study of many cases with other clinical evidences of intestinal tuberculosis they feel that the roentgen-ray is able to give us a definite answer. The authors have experienced their best result in the employment of roentgen-ray by the use of barium orally, rechecked with barium enema. Treatment has been thoroughly considered, with best results obtaind by heliotherapy.

HERBERT L. WEINBERGER, M. D.

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*A Manual of Diseases of the Nose and Throat:* By Cornelius G. Coakley, A. M., M. D., F. A. C. S. 7th ed. Philadelphia, Lea & Febiger. 1930. Pp. 672.

This is a compact little volume of nearly seven hundred pages, well written, well printed and neatly bound. It is intended to provide for the needs of students and practitioners and in its preceding editions has enjoyed well deserved popularity. The new edition has been thoroughly brought up to date by including established advances in the specialty and should carry on the useful work of its predecessors.

H. L. KEARNEY, M. D.

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*Nosography:* By Knud Faber, M. D., LL. D. 2nd ed. New York, Paul B. Hoeber, Inc. 1930. Pp. 222.

This is a revised edition of a book that has already become a classic in medical literature. It treats, historically, of the evolution of the concepts and classification of diseases. The relationship of medicine to the allied sciences is ably presented and the proof apparent is presented to show that internal medicine is worthy of the dignity of a true science and that physiology, pathology and chemistry must in their ultimate value prove to be hand-maidens of the Queen Medicine. It is well worth close study and will imbue those interested with a renewal of interest in a subject that has been disdained in recent years.

I. L. ROBBINS, M. D.

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*Public Welfare Administration in Louisiana:* By Elizabeth Wisner. Chicago, Univ. of Chi. Pr. 1930. Pp. 239.

In this splendid book, the author has traced from their beginnings the social institutions of Louisiana. She has undoubtedly consulted a tremendous amount of material and she is to be commended for the masterly way in which she has handled this great task. With clear vision as to the progress, the shortcomings and as to the internal conditions in the state because of its several governments as they influenced the developments of these institutions, she has presented in a most readable, precise and correct manner a problem of vital interest to all citizens of the state. Of particular interest to the profession must be Parts II and III which deal with the care of the sick, poor and the insane. The book is most constructive and helpful and will well repay those that read it.

I. L. ROBBINS, M. D.

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*Progressive Medicine:* December, 1930. Philadelphia, Lea & Febiger. 1930. Pp. 383.

The literature has been comprehensively and intelligently reviewed and presented in a most satisfactory manner. In it one will find subjects of interest that are vital to the knowledge of present day medicine as always, the volume is of the best quality as regards authors, abstracts and subjects.

I. L. ROBBINS, M. D.

*A Manual of Normal Physical Signs:* By Wyndham B. Blanton, B. A., M. A., M. D. St. Louis, C. V. Mosby Co. 2nd ed. 1930. Pp. 246.

Because he knew of no book on physical diagnosis which contained a description of normal physical signs without abnormal signs intermingled and because he believed that students became confused when studying pathology and the normal side by side, Blanton wrote this manual.

Done in outline form, all the normal physical signs are listed, some are described. It is unintelligible to students without expository elaboration. This is the second edition revised, with the addition of new illustrations.

Some of the illustrations (reprinted from Love's Physical Diagnosis) resemble those pictures in the comic section of a college annual which are made by cutting from a photograph the head of an individual (usually a professor) mounting said head on cardboard and drawing a grotesque body onto the head.

MAURICE SULLIVAN, M. D.

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*Studies of Bright's Disease:* By D. D. Van Slyke et al., Baltimore, Williams & Wilkins Company. 1930. Pp. 130.

Reprinted from Medicine is this unusually fine monograph. Represented are the results of seven years' exhaustive studies on nephritis in sixty seven patients. Less ponderously written than the usual Van Slyke article it is quite readable. The detail in the half-tone and colored illustration is perfect.

Complete chemical, clinical and functional observations are reported on sixty-seven cases. Gross and microscopic findings are described for seventeen of these cases. Diagnoses were made on the basis of observations of the urea excreting power of the kidneys, measured by blood urea clearance (cubic centimeters of blood cleared of urea by one minute's excretion, Moeller, McIntosh and Van Slyke 1928), of the hematuria, blood pressure, porteinuria and edema. The secondary anemia and hemoglobin content of the blood were studied and their prognostic significance were demonstrated.

The three types of nephritis, they found, are essentially different in their genesis and pathological nature: the hemorrhagic or glomerular, marked primarily by glomerular inflammation, with hematuria and usually diminished renal function (even in the acute stage); the sclerotic disease, marked primarily by pathological changes in the small arteries of the kidneys (and usually other organs), with hypertension as the first sign and dimnished renal function only as a terminal phenomenon; the degenerative disease or diseases; called nephrosis, marked primarily by degenerative changes in the kidneys without hypertension and with hematuria. Contrary to the apparently general belief, except that of Addis, they observed that gradual decrease of urea excreting ability frequently develops during the course of nephrosis, and that the disease may end in uremia, the glomeruli being then involved in the degenerative changes.

MAURICE SULLIVAN, M. D.

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*Elementary Zoology for Medical Students:* By L. A. Borradaile, Sc. D. London, Oxford Univ. Press. 1930. Pp. 397.

This book, which is an abridgement of the Manual of Zoology by the same author, presents a brief account of the morphology and physiology of several important animal types. A detailed description of the frog is followed by shorter accounts of the representatives of eleven animal groups. No attempt is made to cover the entire animal kingdom, several Phyla being omitted entirely. A chapter on embryology and one on classification and evolution conclude the work.

In the main, the choice of subject matter is excellent, a good balance being maintained between descriptions of structure and of function. The book is well illustrated and adequately indexed.

E. S. HATHAWAY, Ph. D.

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## PUBLICATIONS RECEIVED.

P. Blakiston's Son & Co., Philadelphia: A Manual of Surgery, by Francis T. Stewart, M. D., and Walter Estell Lee, M. D. Recent Advances in Haematology, by A. Piney, M. D., M. R. C. P. Operative Obstetrics on the Manikan, by Charles B. Reed, M. D., F. A. C. S. Human Physiology, by F. R. Winton, M. D., L. E. Bayliss. Lovett's Lateral Curvature of the Spine and Round Shoulders, F. R. Ober, M. D.

W. B. Saunders Company, Philadelphia: Modern Surgery, by John Chalmers DaCosta, M. D., L.L. D., F. A. C. S. Traumatotherapy, by John J. Moorhead, M. D. Surgical Nursing, by Hugh Cabot, M. D., Mary Dodd Giles, M. D. Practical Radiation Therapy, by Ira I. Kaplan, B. S., M. D.

The Williams & Wilkins Company, Baltimore: The Factor of Infection in the Rheumatic State, by Alvin F. Coburn, M. D.; Bioassays, by James C. Munch.

Hugh A. Lound, Columbus: The Physics of X-Ray Therapy, by W. V. Mayneord, M. S.

C. V. Mosby Company, St. Louis: Modern Methods of Treatment, by Logan Clendening, M. D.

Paul B. Hoeber, Inc., New York: Cancer, Its Origin, Its Development and Its Self-perpetuation, by Willy Meyer, M. D.

The Electron Press, Kansas City: High Frequency Practice, by B. B. Grover, M. D.